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UNIVERSITY OF ALBERTA

ACCULTURATION AND THE ACADEMIC ACHIEVEMENT OF CHINESE-CANADIAN STUDENTS

BY

RAY D. MAH ©

A THESIS SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

IN

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "Acculturation and the Academic Achievement of Chinese-Canadian Students" submitted by Ray Mah in partial fulfillment of the requirements for the degree of Master of Education in Sociology of Education.

Dr. A. M. Decore

Professor John Young

Dr. P. A. Saram

Date: 9 March 1995

To
Fred Rourke

ABSTRACT

This thesis examines the relationship between acculturation and the academic achievement of Chinese-Canadian students. Previous studies suggest that the most defensible explanation of exemplary achievement among Asians centers on family structure and value systems. Despite the informal, positive evidence for such family-based academic socialization, little has been done to explore the effect of acculturation on the attitudes and values of Chinese-Canadian students and, accordingly, on their school performance. To examine this relationship, two groups of Chinese-Canadian students were analyzed: 1) short-term residents, those who were born in Asia and who have lived in Canada 10 years or less, and 2) long-term residents, those who were either born in Canada or who were born in Asia but who have lived in Canada for more than 10 years. It was hypothesized that among Chinese-Canadian students, those who were *closer* to their ethnic culture, whether demographically, through socialization or both--would do better in school than those who were not.

The role of motivation, attributions of the source of success, and other factors that may be influenced by parental child-rearing practices and values were reviewed and testable hypotheses regarding the socialization of exemplary school achievement were formulated. A questionnaire covering personal, sociocultural, and subcultural attitudes and practices was then administered to 102 students of Chinese descent. This questionnaire provided quantified measures of acculturation based on demographic, linguistic and cultural background data, as well as academic socialization data based on student attitudes and values.

The students' responses were coded and entered, and the data were analyzed with SPSSX. Analysis of variance was then conducted to examine the relationship between various independent and control variables and their effect on mean scores in mathematics, science, English, social studies, and GPA.

The hypothesis that the performance of successful Chinese students is the result of culture-specific child-rearing practices or 'early academic socialization'

was generally supported with a few exceptions. Although academic socialization appears to play an important role in influencing school performance, not all of the variables had a significant impact on mean scores. In addition, students who were 'mid-level' in their academic socialization sometimes performed better than those who were highly academically socialized. The overall effect of increased acculturation, however, appears to be an attrition of Chinese-centered practices and values, with a concomitant decrease in academic achievement.

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TABLE OF CONTENTS

CHAPTER PAGE

I. INTRODUCTION 1

  A. Statement of the Problem 1
  B. Plan of Thesis 3

II. THEORETICAL FRAMEWORK AND LITERATURE REVIEW 5

III. METHOD AND PROCEDURE 35

  A. Research Design 35
  B. Research Site and Sample Selection 37
  C. Instrumentation and Data Collection 39
  D. Data Processing 41

IV. ANALYSIS AND INTERPRETATION OF DATA 43

  A. Demographic Data 44
    1. Students' Length of Residence in Canada 44
    2. Students' Birthplace 45

  B. Linguistic and Cultural Background Data 47
    1. Chinese Language Ability 47
    2. Relationships With Other Chinese 48

  C. Cultural Maintenance 49

  D. Ethnic Identity: Ethnic Pride and Ethnic Differences 52

CHAPTER PAGE

E. Academic Socialization Categories 58
  1. Committment to Education 59
  2. Parental Activity Supervision 61
  3. Adaptive Classroom Attitudes 67
  4. High Priority on Education 68
  5. Seeing As Others See Us 70

F. Success Orientation 73

V. CONCLUSIONS 83

A. Conclusions 83

B. Limitations and Recommendations 85
  1. Limitations 85
  2. Recommendations 86

BIBLIOGRAPHY 89

APPENDICES 95

A. Cover Letters 95
B. Questionnaire 98

LIST OF TABLES

TABLE PAGE

4:1 - Effect of Length of Residence in Canada on Academic Performance 45

4:2 - Effect of Students' Birthplace on Academic Performance 46

4:3 - Effect of Student's Gender on GPA 46

4:4 - Effect of Chinese Skills on Academic Performance 47

4:5 - Effect of Chinese Contacts on Academic Performance 49

4:6 - Effect of Cultural Maintenance on Academic Performance 50

4:7 - Effect of Cultural Maintenance on Academic Performance Controlling for Length of Residence in Canada 54

4:8 - Effect of Cultural Maintenance on Academic Performance Controlling for Students' Birthplace 55

4:9 - Effect of Ethnic Pride on Academic Performance 56

4:10 - Effect of Ethnic Pride on Mean Math Scores Controlling for Length of Residence in Canada 56

4:11 - Effect of Ethnic Pride on Mean Math Scores Controlling for Students' Birthplace 56

4:12 - Effect of Ethnic Differences on Academic Performance 57

4:13 - Effect of Ethnic Differences on Mean Math Scores Controlling for Length of Residence in Canada 58

4:14 - Effect of Committment to Education on Academic Performance 60

4:15 - Effect of Committment to Education on Academic Performance Controlling for Length of Residence in Canada 63

4:16 - Effect of Committment to Education on Academic Performance Controlling for Students' Birthplace 64

TABLE PAGE

4:17 - Effect of Parental Activity Supervision on Academic Performance 65

4:18 - Effect of Parental Activity Supervision on Academic Performance Controlling for Length of Residence in Canada 65

4:19 - Effect of Parental Activity Supervision on Academic Performance Controlling for Students' Birthplace 66

4:20 - Effect of Adaptive Classroom Attitudes on Academic Performance 68

4:21 - Effect of Priority on Education on Academic Performance 69

4:22 - Effect of Priority on Education on Academic Performance Controlling for Length of Residence in Canada 71

4:23 - Effect of Priority on Education on Academic Performance Controlling for Students' Birthplace 72

4:24 - Effect of Seeing As Others See Us on Academic Performance 73

4:25 - Effect of Success Orientation on Academic Performance 73

4:26 - Analysis of Variance: Math by variables 78

4:27 - Analysis of Variance: Science by variables 79

4:28 - Analysis of Variance: GPA by variables 80

4:29 - Analysis of Variance: English by variables 81

4:30 - Analysis of Variance: Social Studies by variables 82

I. INTRODUCTION

A. Statement of the Problem

The academic and occupational achievement of Asian immigrants to North America has been much noted in recent years. According to Vernon (1982), the most defensible explanation of Asian-American achievement centers on family structure and value systems. Many researchers have therefore studied the home backgrounds of successful Asian-American students in an attempt to formulate testable hypotheses about the socialization of exemplary school achievement. In addition to examining the 'academic socialization' of Chinese-Canadian students, this present study will assess the overall influence of other cultural factors on school performance. Because of the strong and positive emphasis that traditional Chinese culture places on educational development, it is hypothesized that a link exists between exemplary academic performance and an individual's socialization within this culture. In the process of examining factors such as student birthplace, length of residency in Canada, cultural maintenance, ethnic identity, Chinese language ability, and contacts with other Chinese, an attempt is made to clarify the importance of traditional Chinese culture on school achievement, and to determine what kind of impact, if any, assimilation has had on a student's educational development.

The factors most noted in the literature which appear to have an impact on achievement are 1) culture-specific child-rearing practices and 2) traditional Confucian-based values instilled through such practices. One of the goals of the study will be to identify first some of the Chinese-centered practices and values which promote academic success. This will come from studies done by researchers on the early academic socialization of successful Asian-American students as well as from literature on Confucian beliefs and practices. From this, a questionnaire covering personal, sociocultural, and subcultural attitudes and practices was developed and administered to 102 students of Chinese origin. The aim of this questionnaire is two-fold: first, by comparing quantified measures of cultural factors such as parental activity supervision and ethnic identity with student grade point averages, the author of this study attempts to determine the relative importance of each factor on a student's academic performance. Secondly, by analyzing specific characteristics of acculturation (for example, ethnic identity preference, ability to speak English, participation or non-participation in typically Chinese activities (obtained from scales regarding Chinese food, films, reading materials, and music), etc., as well as the most obvious measure of acculturation--a student's generational distance from a Chinese origin), and examining these with school grades and student self-assessment, the study compares less acculturated Chinese students with more Westernized students, and attempts to find differences and/or similarities in their educational performance.

The major goal of this study, however, will be to examine the impact of Chinese culture on the academic achievement of Chinese-Canadian students. "To what extent or impact do family structure and value systems have on their school performance?" "Do previous studies on the academic socialization of successful Asian-American students hold true for Chinese-Canadian students?" In analyzing two groups of Chinese-Canadian students -- 1) short-term residents who were born in Asia and who have lived in Canada 10 years or less, and 2) long-term residents, those who were born either in Canada or in Asia but who have lived in Canada most of their lives-- and examining the influence of Chinese culture on the school performance of both, this study will also touch upon the following question: "Is there an attrition or retention of traditional values toward family and school among long-term residents, and in what way is this reflected in their academic performance?" The importance of this question lies in the speculation that there may be a lowering of academic achievement and standards among Chinese Canadians who are more acculturated, and that acculturation invariably leads to an acquisition of habits which are detrimental to school performance. Such lowering of achievement and standards among thoroughly acculturated Chinese Canadians can be looked upon with alarm, especially by those interested in further studying their assimilation in Canada.

In recent years, especially in the United States, there has been a considerable amount of debate about the acculturation of various minority groups (e.g., the Japanese group and Chicanos) and related issues and problems. In the United States, acculturation has often meant a "unidirectional process in which Anglo linguistic and sociocultural traits are absorbed and native practices relinquished" (Teske and Nelson 1974). If ethnic minority members advance their opportunities in North America by changing cultures, then one might expect that educational performance would advance concomitantly with the degree of acculturation. Some studies show that with some minority groups in the United States, academic performance improves as members become assimilated to, or familiar with, Anglo-American sociocultural traits, especially the functional use of the English language (Cabrera 1963;Schwartz 1969). Yet other studies reveal that members from these same minority groups have social and psychological problems of adjustment, and that in fact less acculturated individuals do better in school. The question arises as to what kind of impact does assimilation have on Chinese students in Canada.

B. Plan of Thesis

The next Chapter II. presents the theoretical framework and literature review for the study of academic socialization and its relationship to exemplary school achievement, as well as examining some of the problems and issues of acculturation and educational performance. First, various aspects of traditional Chinese culture are explored, in particular, the role of Confucianism and its emphasis on education and family relationships. Next, the research supporting the role of ethnically centered child-rearing practices on different learning styles and educational performance is examined. The evidence reveals that many child-rearing practices within Asian cultures are Confucian-based, and that these practices revolve around family duty and emphasis on achievement. Finally, pertinent articles on acculturation and educational performance are presented; because of the lack of Canadian studies on the subject, the material examined is largely American-based and focusses on other ethnic groups besides the Chinese. A thesis is developed from studies supporting or suggesting a positive relationship between academic socialization as an independent variable and academic performance as a dependent variable.

In Chapter III., the design and method of research is explained, and some demographic characteristics of the respondents are described.

Chapter IV. presents the analysis and interpretation of data. Various independent variables, including those based on research on the academic socialization of Asian children, are analyzed for their impact on mean scores in mathematics, English, social studies, science, and student grade averages (GPA). Hypotheses concerning their impact on mean scores are tested along with an interpretation of the patterns in their relationships. To examine the relationship between these mean scores and a number of independent and control variables, analysis of variance is conducted. At the end of the chapter, a summary of the impact of each independent variable is presented as well as an overview of the influence of assimilation on the respondents' educational performance.

Chapter V. has conclusions from the previous chapters.

II. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

How we learn, how we behave in school, and what we become are significantly dependent on the social and cultural contexts of which we are a part. In recent years, educators have acknowledged the importance of the sociocultural world in influencing a child's learning process and potential for school achievement. Some of the components of the sociocultural world which surround children are the immediate family group, the larger kinship group, the community, and various governmental agencies. According to Maehr (1975), all of these groups constitute a sort of "social matrix" for behavior and development, influencing not only patterns of dress but, more importantly, motivational patterns, intellectual functioning, and communicative skills. A child's sociocultural origins, therefore, cannot be ignored in attempting to understand differences in academic achievement among ethnic populations.

The main objective of this chapter will be to examine some of the research literature on the socialization of Asian-American children, specifically with regards to their learning abilities and characteristics as shaped by cultural variables, particularly child-rearing practices. It should be noted that despite the large population of Asian Americans, little information is available on the topic, particularly with reference to the critical variables of learning style and orientation toward school. As Saracho and Spodek (1983) point out, most of the empirical works on the subject are dated, use select samples, and/or fail to report information vital to the studies' replicability and credibility. One factor which may underlie the sparsity of relevant educational literature is the stereotype of Asian Americans as members of a successful "model minority", a picture that may generalize to early school performance (Saracho and Spodek, 1983). Because of this, one tends to encounter ample literature which looks at the "achievement phenomenon" of Asian-American students, but attempts only a superficial examination of the reasons behind their academic success. Take for example, the following excerpt from a magazine article:

> No matter what their route, young Asian Americans, largely those with Chinese, Korean and Indochinese backgrounds, are setting the educational pace for the rest of America and cutting a dazzling figure at the country's finest schools...They are finishing way above the mean on

> the math section of the Scholastic AptitudeTest and, according to one comprehensive study of San Diego-area students, outscoring their peers of other races in high school grade-point averages...They spend more time on their homework, take more advanced high school courses and graduate with more credits than other American students. A higher percentage of these young people complete high school and finish college than do white American students...Many Asian-American students are making the U.S. education system work better for them than it has for any other immigrant group since the arrival of East European Jews began in the 1880s...Both groups feel an obligation to excel intellectually, and both share a powerful belief in the value of hard work and a zealous regard for the role of the family (Brand, "The New Whiz Kids," Time, 31 Aug. 1987, p. 46).

The primary aim of this chapter, therefore, will be to explore in greater detail some of the important *cultural factors* which underlie achievement.

Since my study compares two groups of Chinese Canadians (long-term resident Chinese Canadians--including those born in North America--and Chinese Canadians who have been residents in Canada 10 years or less), this chapter also includes a selective review of literature on acculturation and its effect on values and achievement. The goal of reviewing these articles is to assess the changing achievement patterns of North American Chinese, and to further the hypothesis that cultural factors play an important role in shaping a child's academic performance.

According to Ogbu (1983), immigrant minorities in North America, particularly in the United States, often experience the same degree of subordination as black Americans. They are subjected to social and residential segregation, the job ceiling, and inferior education. But as Ogbu claims, this condition does not necessarily cause persistent disproportionate school failure among some immigrants. Using Chinese Americans as an example, Ogbu notes that they are an example of an immigrant minority who have been highly successful in the public schools in spite of structural and cultural subordination. In citing some of the reasons why Chinese Americans do not tend to experience the same failure as black Americans, Ogbu mentions the role of status-mobility, and suggests that Chinese Americans do not exist as a castelike minority. Like other researchers, Ogbu also believes that the success of Chinese Americans may be attributed to a two-fold explanation: 1) that the immigrants bring a cultural respect for learning and value of education as a means of self-advancement, and 2) that their family structure and relationship encourage children to work hard in school. We will examine both of these explanations, emphasizing the important role of the family in shaping a child's achievement orientation.

As a primary agency of socialization, the family provides one of the major contexts where values, beliefs, and expectations are cultivated. Therefore, it seems appropriate to study the home backgrounds of successful Chinese-(and other Asian) American students in an attempt to formulate testable hypotheses about the socialization of exemplary school achievement. If we could identify particular child-rearing and/or pedagogical practices in Asian cultures which promote 'effort attributions' for educational achievement, then the practical benefits for our increasingly technological society might be substantial. To better understand the Chinese emphasis on learning, and how this emphasis is reflected within the family context, we will first explore briefly some of the historical reasons for viewing education as a means of achievement.

In a survey of Chinese and other Asian students at the University of California, Berkeley, Ong (1976) found that the students experienced considerable parental pressure to do well in school for the same reasons their immigrant ancestors wanted their children to succeed. As Ong reports, "The immigrants viewed free public education of their children as hope for the future. Education became the chief means to raise their economic status and social conditions and to get out of the Chinatown ghetto. The Chinese were motivated to use education to advance themselves." To the Chinese, education has always been viewed as a vehicle for self-advancement. In traditional China, for example, a proper education in the Chinese style could lead to success in the civil service examinations, and to a respectable post in the administration (Schafer, 1967). Confucianism emphasized the ritualistic learning of hallowed classics as a moral duty to civilized life and social order. By mastering religious, ceremonial, and political texts, individuals were given the opportunity to pass government examinations and make their way into high positions. Interestingly, the system of government examinations made it possible for men from outside the aristocracy–even for some not born in China–to hold high office and thus be accepted into the elite (Schafer, 1967). This system of examinations remained an integral part of Chinese society up to the communist revolution. Some Chinese immigrants, therefore, initially desired a good education as a means of being able to compete successfully in the civil service examination in China (Sung, 1967). For Chinese immigrants in general, however, school success in America became an increasingly attractive way to achieve economic success and improvement of one's status. Since the main objective of early Chinese immigrants was to make enough money with which to return to China to improve their position, the motivation to use Western education was particularly strong.

Although there was very little educational payoff for the Chinese in America prior to World War II (most Chinese immigrants responded to barriers by withdrawing into the "Chinese sector" of the economy--that is, self- or family employment in a laundry, restaurant, or grocery store), the immigrants still wanted to educate their children in America because of opportunities in China (Sung, 1967). Western education, being highly valued in China during the turn of the century, opened doors to opportunities in the underdeveloped homeland. As Sung notes, "The children of immigrants were urged and prodded into getting as much education as possible, for although the occupational outlook for them was bleak in America, they could always go back to China to practice as doctors, engineers, or scientists." In time, the instrumental attitudes and approaches of the immigrants toward American education became a part of Chinese-American folklore; American criteria for success and the instrumental behaviors enhancing school success were accepted and became culturally sanctioned (Ogbu, 1983). These were passed on to generations of Chinese-American children, and today is reflected in considerable parental pressure to study hard and succeed according to North American criteria or standards of school success. By reviewing a number of studies, we will examine how such pressure to do well is imparted through family structure and value systems. It is important to keep in mind that the studies mentioned in this paper are largely American-based. Nevertheless, it may be safe to suggest that such findings, in regard to Chinese-American "academic socialization", can be applied to

Chinese families in general. In reviewing the literature on the subject, we will begin by reflecting upon some of the basic elements of the traditional Chinese family in order to gain a deeper understanding of the Chinese emphasis on achievement.

In considering the most important cultural factors in the academic socialization of Chinese children, Sue and Kirk (1972) suggest that family emphasis on tradition, conformity, respect for authority, and submergence of individuality fosters greater anxiety and less tolerance for ambiguity. Much of the accompanying literature on the subject appears to reach the same conclusion: that Chinese upbringing imbues children with a stronger motivation to learn and with greater compliance to adult demands than are commonly found in Western cultures. In the traditional Chinese family, parental authority is a dominant theme. The father is considered to be the head of the house and has authority over the family members. The Confucian doctrine of filial piety, in which children are taught to respect their parents and show obedience, is clearly underscored in the father-child relationship. Here, the relationship is mutual; the father must provide for the child when they are young, educate them in the ancestral tradition, and get them suitably married (Hsu, 1948). The pattern of education, as Hsu notes, is associated with a sense of kinship continuity:

> Differences between the psychology and behavior of the younger and those of the older members of the society are recognized. But whether the member in question is five years old or twenty years old, the keynote in his or her training in life is the same. Children are not trained to develop as children, but at every turn they are encouraged to imitate and to participate in the ways of the adults, which are, in turn, ways of the ancestors. The sense of kinship continuity, the big-family ideal, ideals of harmony with members of the clan and community, and the conservatism of the spirits are imparted to the young as early as they can absorb them....The more the youngsters conform to the ancestral tradition, the better. This process makes it clear to them that it is not very desirable and comfortable to be young, but that it is advantageous and dignified to be old. Thus, education is built on the supposition that all the living are in the shadow of their ancestors (Hsu, 1948).

The father-child identification is what Hsu calls a "necessary link in the great family continuum, with numerous ancestors at one end and innumerable descendants at the other." The child (particularly the son in traditional Chinese culture) who fails to take the place of his father in the great family continuum would be perceived as a social outcast by the community. To the Chinese, then, life along the established path is agreeable; all other trails lead to misery and self-destruction. Generally, Chinese children are socialized within a rigid framework that is closely defined by parental authority and ancestral tradition. One, therefore, may ask the question, "What is the effect of these cultural forces on the basic personality norm, that is, on personality development?"

In commenting on the basic personality configuration of traditionally raised Chinese, Hsu (1948) claims that, as far as overt behavior is concerned, the first outstanding quality of these individuals is an explicitly submissive attitude toward authority. Although in all cultures infants are more or less supervised and fed by adults, the manner, extent, and intensity in which such authority is exercised differs in the Chinese culture. As Hsu notes, authority in the Chinese culture is far from being a "one-sided submission pattern". In fact, the obligations between parent and child are quite mutual and balanced in terms of power. Children may find themselves under ancestral authority, but so do their parents. Paternal authority does not originate from the living parents alone, but springs from and is couched in the names of numerous forebears reaching back many generations and reinforced by the utterances and achievements of these glorified individuals (Hsu, 1948). Parents, therefore, act as the ancestors' agents. Under ancestral authority, children are not free to act as they please, but neither are their parents. This pattern of parent-child identification makes them dependent upon one another not only materially but also socially and after death. Thus, achievement is an important means with which an individual adds weight and content to the ancestral authority. Achievement in school, wealth, and prestige, along with participation in ceremonies honoring ancestral spirits, ensures the individual a respected position in the great family continuum. Those who fail to do well reflect upon the conduct of their ancestors, and their ancestors share the disgrace of their failing to do well . Thus, at every turn in life, individuals are constantly encouraged to get ahead of everyone else, for those who reap more virtues while alive and honor their ancestors more ceremoniously will have much better fates than others (Hsu, 1948).

According to Hsu, there are distinctions between the more fortunate spirits and those less fortunate with respect to the traditionally defined framework, and there are also unmistakable signs of struggle for "personal salvation" along the traditionally circumscribed ladder of ascendance. This type of distinction is similar to the Puritan belief that children, like their elders, were prone to sin and in need of exhortation. The Puritans found strength in the divine gift of sanctifying grace, which, through a rigorous and proscriptive code of behavior (e.g., prayer and hard work), promised salvation to believers (Pinchbeck and Hewitt, 1969). Within the socially approved framework and under the impetus to glorify his/her ancestors, the Chinese individual exhibits a similar strong drive to achieve. This, along with the submergence of 'individuality' in the Chinese culture, impels many to be highly dependent on the family group for both material and emotional needs. Although from a psychological viewpoint, the security given to the growing child by the traditional Chinese family is one of its greatest strengths, the expectation of preserving group harmony through conformity, achievement, and respect of authority often fosters a paradoxical outcome: the formation of anxiety. However, because Chinese children grow up with the expectation that personal success is to be group-shared, there is also less room for ambiguity (e.g., vocational uncertainty) in terms of achieving specific life-goals. As we will see in the following empirical studies, such characteristics are very much the result of specific child-rearing practices which stress authority, conformity, submergence of individuality, and educational effort.

In a study which examined the child-rearing attitudes of Chinese, Jewish, and Protestant mothers, Kriger and Kroes (1972) wanted to see what sort of differences existed between these groups with regard to their attitudes toward child-rearing. Using a specific questionnaire known as the Parental Attitude Research Instrument or "PARI", Kriger and Kroes set out to assess two major factors in child-rearing: "control"--i.e., the approved maternal control of the child-- and "rejection"-- i.e., the approval of maternal expression of hostility. All the mothers chosen for the study came from the same socioeconomic class (in this case, the middle class), had a similar level of education, and were of the same age. It was believed that, in spite of a differing cultural origin, the value orientation of American Jewish families would be comparable to the middle-class values of American life. As the researchers note, attitudes toward child-rearing of the modal American mother have become more liberal, particularly during the last three decades. Consequently, the Jewish mother should hold the same kind of liberal permissive attitudes toward child-rearing and thus, both groups should show a high degree of permissiveness as measured by the "control" scale of the PARI. With regard to rejection, the second factor of PARI, it was assumed that an attitude of rejection would be much disapproved of in American culture and few mothers would acknowledge it, even to themselves. Consistent with the assumption that Jewish mothers would reflect the modal attitudes prevalent in the American culture, these mothers would similarly not approve of maternal expression of hostility or dissatisfaction with the child as a member of the family, or withdrawal of love as disciplinary technique.

Concerning the Chinese culture, Kriger and Kroes hypothesized that, because its characteristics are so deeply engraved in its members' personality and way of life, second-generation Chinese Americans would be very likely to retain much of their cultural heritage as a means of maintaining feelings of security or belongingness, even though overtly they tend to adopt some of the practices of the host culture. Thus, although one may expect to find similarities between Americans and Chinese Americans in many aspects of life, at least in the area of child-rearing the attitudes of Chinese-American parents were expected to be almost opposite those of American parents (Kriger and Kroes, 1972). As the researchers note, this would stem from the Chinese belief that the father is the authority figure in the household, and that "since children's behavior reflects on their parents, it is the responsibility of the parents and the nearest kin to control their children." In addition, the Chinese subculture in America is looked upon as holding a "restrictive" pattern of child-rearing attitudes, relative to the permissive "American" attitudes. With regard to rejection, the Chinese mother, because of the fact that she places higher values on strictness and control of behavior, is likely to approve the expression of hostility or rejection towards the child. Kriger and Kroes speculate that the Chinese mother is likely to use verbal or gestural rejection, since these are considered effective for the purpose of disciplining the child and training him/her to bring honor to the family and to him/herself. What is postulated, then, is that the Chinese mothers' attitudes will be significantly different from Protestant mothers' attitudes, but the Jewish mothers' attitudes will be the same as the Protestant mother's attitudes.

From the results obtained in their study, Kriger and Kroes found that, compared to Jewish and Protestant mothers, Chinese mothers scored high on "control". That is, Chinese mothers were more restrictive in their child-rearing attitudes than Jewish or Protestant mothers whose attitudes were comparable and were significantly more permissive. According to the researchers, the permissiveness-restrictiveness continuum has been found to relate to several personality and behavioral variables in children. Most notably, permissiveness is seen as allowing for the development of independence in the child; authoritarian, restrictive behaviors are seen as curbing this development, resulting in a greater need for dependence. On the "rejection" scale, it was found that there were no statistically significant differences among Protestant, Jewish, or Chinese mothers. Kriger and Kroes suggest that one explanation of the failure to find differences is that individual mothers would not avow strong approval of rejection due to the "general sociocultural undesirability of displaying a rejection attitude towards one's children." Despite this finding, the study proposes that Chinese mothers are likely to retain her cultural values, at least with regard to child-rearing, even though these differ from the predominant values of the host culture. An investigation by Steward and Steward (1973) appears to present similar views.

In a study most relevant to the behavior of young children, Steward and Steward (1973) observed Anglo-, Mexican-, and Chinese-American mothers teaching their three-year-old children a sorting and motor skill game. Interaction was videotaped, and coders were selected from each ethnic group. Data were coded using a parent interaction code which analyzed programmatic variables: total time, input, and pacing; and teaching-loop variables: alert, format, child response, and feedback. As the researchers point out, the single best predictor of maternal teaching, or child response, was ethnicity. Ethnic differences in teaching style were reflected dramatically in the results of the study. The mothers, as Steward and Steward claim, created different early learning environments for their children.

As teachers, the Anglo-American mothers employed a "proactive teaching style" in which they spent time in careful setup, gave a rich detail of adult instructions, and used feedback directed in the form of information about the child's performance. In contrast, Chinese mothers, although they were distinctive in their selective use of specificity of instructions and provided a high proportion of enthusiastic positive feedback (providing more positive feedback than the Anglo- and Mexican mothers), were *less* likely to initiate and complete teaching-learning loops (such loops consisted of gaining the child's attention, providing instruction, and waiting for the child's response). Interestingly, within this group, English-speaking Chinese mothers provided significantly more loops than did Chinese-speaking mothers. They also used questions more often and statements less often than Chinese-speaking mothers. As teachers, Mexican-American mothers presented the fewest number of teaching loops, and their instructions included a high percentage of original adult wording. Although their children nearly always accepted the tasks presented, they received a large amount of negative feedback.

In their discussion of LeVine's (1970) review of a large number of cross-cultural studies of children's cognitive development, Steward and Steward (1973) identify at least three important factors relevant to the interpretation of the above data: 1) differential social expectations within a cultural environment for obedience and compliance on the part of the child in the presence of an adult generalized to the child's behavior in a learning setting; 2) unthinking obedience and passive learning styles which often result in the inhibition of cognitive performance or a depression of scores below the level of populations which foster active mastery of a task; and 3) instructional factors which appear to have an independent effect of major proportions in facilitating the development to qualitatively different levels of cognition. For both the Mexican-American and Chinese-American child, the expectation of obedience and respect of elders is culturally demanded, and this expectation, as Steward and Steward note, was obviously generalized to the learning setting. This was reflected in both the high proportion of "accepting responses" these children gave, and in the teaching styles of their mothers. On the other hand, the

American emphasis on self-autonomy was reflected in the Anglo-American mothers' teaching style which stressed child-centeredness; according to Steward and Steward, Anglo children in America are currently experiencing a "relative freedom in the child-centered culture," and thus a corresponding response variability was seen in the data.

Finally, informal data gathered by Steward and Steward about the mothers' perceptions of themselves as teachers support some of the differences reported above. The Chinese mother considered teaching to be an important part of the maternal role, and regular formal instruction of her preschool age children took place in the home. The Mexican mother, in contrast, felt that she was the mother, not the teacher--indeed the "schools do that." In addition, it was noted that kindergarten teachers who worked extensively with both Chinese and Mexican children reported that the Chinese-American mother often requested notification if her child did not learn. The Mexican-American mother, however, wanted to be called if her child did not behave. The Anglo-American mother perceived teaching as only one of several roles she plays in relation to her child, and expressed some ambivalence about what she should be teaching her child. Such variance in expectations and teaching styles have led the researchers to conclude that, because children experience different learning environments, this may result in different skills and expectations brought by them into the classroom. By investigating some of the characteristics of Chinese academic socialization, Steward and Steward's study laid the groundwork for a number of more comprehensive studies on the topic. Foremost among these are Mordkowitz and Ginsburg's (1987) study of successful Asian-American college students, and an important study by Stevenson and Lee (1990) which attempts to explain why Asian children tend to surpass American children in mathematics achievement.

In studying the experience of successful Asian-American college students, Mordkowitz and Ginsburg (1987) have attempted to isolate the role family socialization differences play in the adaptation of these students to the context of American schooling. Structured interviews were conducted with 15 Asian-American students (comprising roughly equal numbers of Chinese, Japanese, and Korean youths) who were either Harvard undergraduates or secondary school summer students. All were children of immigrants, but some were born in the U.S. and others were not. As the researchers note, with two exceptions, the parents' schooling level in Asia and their occupational level in the U.S. were both relatively high; nevertheless, because of the tendency of interviewees to report how widespread their experiences were in the Asian communities, and because there was a considerable proportion of families with multiple high achievers, this made it plausible that ethnic cultural socialization per se was being studied.

The interviews began with an open-ended request for salient autobiographical memories about learning and then continued with approximately 30 questions covering a range of issues. These included assessment of parental instructional styles, parental attitudes and practices in child-rearing, family involvement in the child's perception of school demands in the early years and, finally, self-assessment of the interviewee's current responses to academic challenges. From their analysis (which was essentially an informal induction of common experiences), Mordkowitz and Ginsburg were able to abstract what they termed "prototypical tendencies in child-rearing." While they note that the families showed much individuality, they had no difficulty in distinguishing factors that "seem variable from those that characterize the upbringing of a large percentage (and occasionally all) of the sample." Among the prototypical tendencies abstracted, Mordkowitz and Ginsburg discuss the following: 1) committment to education; 2) an effortful excellence; 3) activity supervision; 4) adaptive classroom attitudes; 5) prioritizing education; 6) low verbal interaction; and 7) seeing as others see us. Let us examine each factor in closer detail, beginning with committment to education.

One of the most uniform factors that was noted in the students' home environments was what Mordkowitz and Ginsburg called a "synergy" between close family feelings and parentally instilled respect for education. The socializing instrument which transmitted 'educational achievement striving' from parent to child seemed to be guilt about parental sacrifices. Accordingly, the reciprocity of parents showing love by providing the best possible opportunities for learning and children returning love by doing their best in school was quite rich and explicit. For example, the children were told that any investment in tutors, books, music lessons, summer schools, etc., was worthwhile, and they often clearly specify these things in terms of stretched budgets and long parental working hours. There was even the prevalence of moves by the family to relocate to better school systems. One comment made by a Harvard student suggested that mothers in Boston's Chinatown often cite the need to help their children with learning as one reason to withdraw from the labor force if the family could afford it. Clearly, then, there were a great variety of ways in which Asian-American parents underscored the importance of a child's education and their committment and willingness to further it.

The researchers also note that all the students tend to come from very stable home environments; the most direct index of the strong family structure was the absence of a single divorce in the entire sample. In addition, the Asian-American parents tended not to use babysitters, and they rarely gave their children freely spendable allowances. Both choices, as the researchers suggest, reflect a desire to play a direct "oversight role" in their children's activities (and hence underscore parental authority and responsibility). However, the researchers failed to find any evidence that the parents tried to involve their children in adult conversation to stimulate "cognitive advances." This, interestingly, seems to parallel Steward and Steward's (1973) earlier finding where Chinese-American mothers showed a much less tendency to be proactive (in comparison to Anglo-American mothers) in their teaching styles. Instead of intensive parent-child cognitive interaction, there was a pervasive emphasis on educational study as the principal obligation of the child. As Mordkowitz and Ginsburg note, this emphasis represented 'a mixture of desire for economic advancement, traditional reverence for scholars, and a degree of threat that mediocrity would lead to dire economic insecurity.'

Even though education was highly valued, the motivational regimen that worked so well for these interviewed students was based not on large extrinsic rewards, but on high expectancies and socialization of effortful perseverance--the factor identified by Mordkowitz and Ginsburg as "effortful excellence". Parents held uniformly high expectations for achievements; good rather than excellent, A- rather than A+ and so on, were often greeted with a non-punitive but insistent demand that the child had the ability to do better. Consequently, many of the interviewed Asian-American students had internalized a bias toward effort attributions. At the same time, the great majority of interviewees received only "muted, sparing praise," and only a few ever received material rewards for good grades. An alternative and pervasive motivating technique was non-ridiculing comparison of the child's performance with exemplary models. Parents, for example, often related stories that appeared in ethnic newspapers about high achieving students to their children. Secondly, the child was often told how other children were doing academically. All of these examples seemed to provide role models and competitive stimulation.

The third major factor common to many of the students' home environments was activity supervision. This consisted of strict parental control of after-school time. Such control varied from simply making sure homework was done to severely limiting the amount of play time. As the researchers point out, many of the parents also assisted with homework difficulties; in some cases tutoring by siblings supplemented the parental contribution. Thus, education was often regarded as a family duty where everyone would help each other (i.e., if there was a need) for the benefit of the group.

Fourthly, Mordkowitz and Ginsburg were able to identify two loosely related attitudes that helped define the relation of the child to the external society. As they note, these seemed to accelerate a child's adaptation into the public school system. First, upon reaching school age the child must accommodate to a new socializing agent, the teacher. The uniform report of the sample studied was that a relatively unquestioning respect for teachers was inculcated at home. This was even true in cases where direct parental involvement in school was minimal because of language problems. To illustrate, the researchers provided the case of one interviewee who remarked that the "disorders in her American classroom were a vivid contrast to the quiet discipline of her Saturday Chinese language class." Another interviewee said her mother insisted that she take small gifts to the teacher. A third even reported that when once she swore at her mother, the response was, "I hope you don't talk that way to your teacher." All of these cases clearly exemplify Asian deference to authority.

A second possible form of attitude socialization that promotes school adjustment is the reported strong discouragement that Asian children receive about fighting. For example, many children were instructed to deal with harassment by ignoring it and thus induce the other person to lose interest. Because it is well known that some non-Western cultures put a greater emphasis on self-control of aggression than Americans do, children from such cultures are encouraged to avoid conflicts within the microcosm of the school society. Non-confrontational responses are encouraged not only to safeguard one's self-respect (to lose one's temper would be to lose face) but also to maintain the social harmony of the group. Hsu (1948) mentions that "esprit de corps" (brought about by promoting harmony with members of the clan and community) is highly valued by the Chinese.

Many Asian parents in the study also shaped their children's intercourse with the external world by not expecting them to contribute to either daily household chores or economic livelihood unless doing so was absolutely essential. By not demanding such contributions, the parents 'prioritized education' by making more study time available, provided an incentive to study, and increased the sense of obligation to the parent. These parents discouraged their children from pursuing any part-time work in high school and college-- "even to the point of absorbing the cost of that part of college financial aid involving a job". The researchers suggest that the effects of these influences may be to alter crucially the students' perception of how to manage time in pursuit of educational goals.

In talking to Asian students about the kind of conversational topics their families tended to discuss, Mordkowitz and Ginsburg further made a rather interesting and unexpected discovery: that Asian families on the whole tend to be quiet in comparison to white families; for example, they do not talk much at all around the dinner or anywhere else. The researchers claim that such low verbal interaction is the result of socialization. Although some researchers such as Suzuki (1980) have argued that the lower verbal skills and general taciturn demeanor of Asian Americans is partially a defensive reaction to racial ostracism, there seems to be greater support that such de-emphasis on verbal expression is present in family interaction from an early age, and hence the socialization factor is likely more critical.

Finally, at the end of the interview, the researchers asked the students to speculate about how they might have been different had they grown up in a white majority family (that is, 'seeing as others see us'). In many respects they see majority upbringing as the inverse of their own. That is, the students believed they would have had parents who gave them more freedom, but possibly cared less about their welfare, and that they would have had a less positive image of academic achievement and less willingness to work hard, but more developed social skills. As Mordkowitz and Ginsburg point out, the difference between the experience of Asian Americans and other Americans should not be exaggerated because they reported many of the same concerns about "laziness, procrastination, study anxiety, and cramming that everyone has felt." Still, the study provides evidence that specific aspects of home socialization can exert a positive effect on school adjustment irrespective of class or race. Further evidence is revealed by Stevenson and Lee (1990) in a study comparing Chinese and Japanese children to American children in mathematics achievement.

The major purpose of Stevenson and Lee's (1990) study was to attempt to understand some of the reasons why American children tended to do much more poorly than Chinese and Japanese children on mathematics achievement tests. For the study, a total of 1,440 children attending first and fifth grades were selected from elementary schools in Minneapolis, Taipei (Taiwan), and Sendai (Japan). The children were tested with achievement tests in mathematics constructed specifically for the study (the tests were constructed by bilingual researchers who aimed to eliminate cultural bias as much as possible), the children and their mothers were interviewed, the children's teachers filled out a questionnaire, and interviews were held with the principals of the schools attended by the children.

As the researchers note, background information about the children's everyday lives revealed much greater attention to academic activities among Chinese and Japanese than among American children. Members of the three cultures differed significantly in terms of 1) parents' interest in their child's academic achievement, 2) involvement of the family in the child's education, and 3) parents' and children's beliefs about the relative influence of effort and ability on academic achievement. Stevenson and Lee suggest that such factors tend to account for the high academic achievement of Chinese and Japanese children. What follows is an examination of these factors.

The findings of Stevenson and Lee's study are very similar to those of the previous studies. For example, it was found that, while children's academic achievement did not appear to be a central concern of American mothers, Chinese and Japanese mothers viewed this as their child's most important pursuit. Hence, when asked to describe their children's after-school activities, more of the Chinese and Japanese than the American mothers mentioned activities related to academic pursuits (e.g., reading, studying, playing academically related games, etc.). On the other hand, the American mothers were more likely than the Chinese and Japanese mothers to describe non-academic activities of their child, such as social interactions with friends and family members, watching television, sports, and other extracurricular activities. As well, American parents were tolerant of their children spending much time in non-academically related activities, believing that this would make them into well-rounded individuals. Chinese and Japanese parents, in contrast, appeared to believe that the route to future happiness is through high academic success. As long as their children studied diligently, they were willing to be lenient in other aspects of their child's life. Thus, it appeared that Chinese and Japanese mothers played an important role in supervising their children's schoolwork; as Stevenson and Lee note, even mothers with little education seemed to perform this task effectively.

Not only was such parental supervision prevalent, but assistance with schoolwork often came from older siblings and even other relatives. This differs from American families, where mothers assume primary responsibility for assisting children with their schoolwork. Like Mordkowitz and Ginsburg's (1987) research, this study discovered that Asian children were usually relieved of obligations to assist the family with chores; as long as the child was successful in school, few demands were made in other areas. In addition, Chinese and Japanese families usually made large sacrifices (in terms of space, funds, and time) for their children's education. As Stevenson and Lee explain, children in such situations work hard not only to satisfy their own goals but also to meet the goals set by their families and teachers; in the eyes of the Chinese and Japanese, the success of the group is valued just as much as the success of particular individuals within the group.

Lastly, significant differences were found to exist between Chinese and Japanese mothers and their American counterparts in beliefs about effort and ability. Stevenson and Lee reveal that one of the most pervasive beliefs in Asian cultures is that effort is the major avenue for improvement and accomplishment. The Chinese have long believed in the malleability of human behavior; it is one of the fundamental precepts of Confucianism (Munro, 1977). This is also touched upon by Hsu (1948), who says that the average Chinese is "far from being fatalistic....On the contrary, he will do everything in his power to solve his problems and improve his social and economic position at any time. According to Stevenson and Lee, a similar theme is found in Confucian-based Japanese philosophy where individual differences in potential are de-emphasized and great importance is placed on the role of effort in modifying the course of human development.

Because of their beliefs, the Chinese and Japanese mothers in Stevenson and Lee's study were much more likely to emphasize effort than ability as an explanation for achievement. Relative to the Chinese and Japanese mothers, the American mothers placed greater emphasis on ability. Thus, Chinese and Japanese mothers were most likely to agree that all children tend to have the same amount of ability in mathematics, but American mothers were most likely to agree that children were *born* with these abilities. Conversely, Chinese and Japanese mothers were more likely to believe that any child could be good at mathematics if he or she "worked hard enough." The impact of such beliefs on children is evidenced by the fact that American, Chinese, and Japanese children all had beliefs similar to that of their mothers. Hence, Chinese and Japanese children tended to hold strong beliefs about the importance of effort, and American children gave greater emphasis to the role of ability. Stevenson and Lee suggest that children may thus work harder in mathematics (and other subjects) if they believe that achievement depends on effort, or they believe that effort is important because they have been successful. Indeed, Stevenson and Lee's examination of how cultural beliefs influence children academically warrants further analysis in this paper. To this point, we have analyzed some of the major cultural differences in child-rearing practices between Asian and other ethnic groups. We have also seen how certain cultural values become transmitted from parent to child. The following two studies focus more attention on the child, and how inculcated values come to be reflected in personality traits. Both studies stress the importance of examining the personality characteristics of the Chinese in order to understand their particular modes of adjustment and needs in higher education. They claim that the core of cultural systems consist of traditional (that is, historically derived and selected) ideas which act as 'conditioning elements' in furthering actions.

In a comparative study of the personality characteristics of American, (East) Indian, and Chinese students, Singh, Huang, and Thompson (1962) set out to investigate some of the differences and similarities in students' values and attitudes on the assumption that they have had different cultural backgrounds. Random samples of 37 American, 37 Indian, and 37 Chinese students from Ohio State University were drawn for the study. All the students were asked to complete several questionnaires: the Allport-Vernon-Lindzey 'Study of Values', Charles Morris' 'Ways to Live', Sanford and Older's AE Scale, and Edwards' 'Personal Preference Schedule'. The findings revealed significant differences among the American, Indian, and Chinese students' personality patterns, particularly in regard to the following characteristics: 1) self-centered vs. society-centered orientation, 2) authoritarian personality, and 3) autonomy, succorance, and nurturance.

According to the researchers, the most striking contrast among the groups in this study was the more self-centered tendency in the American students. Indian students stood in the middle on this dimension but were closer to the Chinese students. Data from the Allport-Vernon-Lindzey scale showed that the Chinese students placed more importance on the value of family/group life while disapproving self-centeredness. In addition, the Chinese and Indian students were found to be more authoritarian than the American students. As the researchers note, the Indian students scored even higher than the Chinese students on this variable. The reason given for this finding is that in India and China, families are large and the family pattern is authoritarian. The eldest of the family is accorded respect from the younger. Because of this tradition, children reared in such families become more authoritarian. American children, because they grow up in a single family unit and eventually separate from their parents and make their own homes, do not identify the parent as a model and source of authority in the same strong manner. According to Singh, Huang, and Thompson, Indian children and Chinese children respect their parents as a model and authority even after becoming adult and father/mother of their own children. For them, peaceful co-existence appears to them to demand authority and submission. Finally, American students tended to score higher on autonomy while Chinese and Indian students scored higher on nurturance. American students wanted to lead their own lives and disliked interference in their personal affairs. As the researchers point out, American culture gives more emphasis to personal autonomy and individuality. In contrast to this, Indian and Chinese students tended to emphasize sympathy, love, affection, mutual help and family bond, resulting in "sympathetic and sacrificing attitudes." Data from a study by Sue and Kirk (1972) appear to support the above findings.

Sue and Kirk (1972) believe that knowledge of the psychological characteristics of Chinese-American students can be valuable in alerting educators to ways of facilitating the use and development of educational opportunities for these students. In their study of the psychological characteristics of Chinese-American students, they suggest that differences from the dominant white society must be discussed in relation to the subcultural values of the Chinese Americans. What they discover is that Chinese-American students are more conforming, less socially extroverted, and experience greater emotional distress than other students. Data were collected using three forms: the School and College Ability Tests (SCAT), the Strong Vocational Interest Blank (SVIB), and the Omnibus Personality Inventory (OPI). Information relevant for our analysis came from the Omnibus Personality Inventory (OPI). On the two scales measuring degree of liberalism in attitudes, a significant difference was found only on the measure autonomy. Again, Chinese-American students are more conservative in the sense of obedience and conformance to authority (i.e., low autonomy). Additionally, all scales measuring social-emotional adjustment reveal significant differences between

Chinese-American students and all other students.

According to Sue and Kirk, Chinese-American students appear to be more inhibited and less ready to express their impulses. They also exhibit attitudes and behaviors that are characteristic of those less socially extroverted. Finally, Chinese-American students appear to feel less at ease with themselves and others and are more apt to be uncomfortable and anxious. Explanations for these differences must be looked at in terms of the traditional Chinese family structure and its subcultural values, say Sue and Kirk. The family emphasis on conformity, respect for authority, and submergence of individuality makes individuals less autonomous. As well, the conservative nature of the family, its emphasis on fixed ways of behaving, traditions, etc., may contribute to the Chinese-American students' discomfort in new situations (Sue and Kirk, 1972). Therefore, they may show greater anxiety and lower tolerance for ambiguity. One of the influences of this facet of the Chinese personality was cited earlier in the paper-- insecurity arises from a fear of not doing well or acting properly; those who fail or act improperly reflect upon the conduct of their ancestors, and their ancestors share the disgrace of their failing (Hsu, 1948). Finally, it was suggested by the researchers that the guilt and shame that the Chinese use to control behavior (DeVos and Abbott, 1966), and their discomfort in relating to those outside the family frequently cause the Chinese American greater emotional distress. Indeed, all of the studies examined thus far have suggested significant differences in the socialization and personality patterns between Asian Americans and Anglo Americans. Yao (1985) presents one study which shows that, when comparing two sets of high achievers (one Asian American, the other Anglo American), similarities tend to exist among the value patterns of Asian-American families and their Anglo-American counterparts.

In comparing the family characteristics of Asian-American and Anglo-American high achievers, Yao (1985) discovered not only differences among them but also similarities, particularly in regard to parental expectations and concerns, and family environments and relationships. The study examined Asian and Anglo high achievers (whose scores on achievement tests were over the ninety percentile) and proposed that cultural factors appeared to be responsible in positively affecting the achievement patterns of these students.

For the study, stratified random sampling was applied; Anglo students were chosen to match an Asian sample according to sex, grade level, socioeconomic class, and scores on achievement tests. Data were collected through structured interviews of selected children's parents. In addition to the demographic data form, the researcher used an open-ended questionnaire for the interview. This questionnaire consisted of items relating to 1) parents' attitude toward education, their expectation of school, teachers, and of their children; 2) parents' contact with schools and interaction with their children; and 3) lifestyle of the family.

The results of Yao's study are interesting as they reveal that, although minor differences and variations in parenting style are found in child-rearing, basically both Asian and Anglo parents share a similar value system. For example, both groups are concerned, warm, interested, and supportive parents and work to maintain a close relationship with their children. In addition, both Asian and Anglo high achieving students tend to come from stable home environments that afford an even lifestyle for them. Yao suggests that the children benefitted from a "regular lifestyle with a feeling of stability and sense of control." Yao's study is important as it directs our attention toward certain cultural factors which appear be conducive to a child's performance in school. Like all of the other studies examined in this paper, it reinforces the argument that superiority in cognitive aptitude cannot explain Asian Americans' high levels of achievement, that one must instead look at cultural differences in socialization which appear to have a real influence on school achievement.

The aim of this chapter has been to examine some of the fundamental values of the Chinese family which seem to account for differences in academic potential, and how such values become transmitted from parent to child through child-rearing practices. As evidenced, much of the work on the subject appeared to support the notion that school achievement is attributable to specific cultural factors. By identifying such factors, the researchers were able to conclude that the personality traits and the accompanying high performance of Chinese students were the outcome of parental child-rearing practices and values, or 'Chinese academic socialization.' With these empirical studies in hand, one may question the impact of such socialization on Chinese students in

Canada. Do recent Chinese immigrants excel at school and do better than long-term and Canadian-born Chinese students because of cultural differences in socialization? It is the hypothesis of this current study that such students would do better than more acculturated students because of the greater influence of Chinese culture in their upbringing. What follows is a review of studies which specifically examine acculturation and its influence on academic achievement and traditional values. Although the studies below focus on Japanese and Chicano students, they are relevant to this study as they appear to support the academic socialization hypothesis.

It is also important at this point in the thesis to clarify the use of the term acculturation. Although acculturation and assimilation are often used interchangeably in the literature, the use of the former term in this study complies to a definition given by noted American sociologist Milton M. Gordon. In his seminal work, Gordon (1964) distinguishes between seven variables of assimilation of which acculturation is but one; because assimilation is a complex, multidimensional process, Gordon defines acculturation as a "*type of assimilation* which involves a change of the original cultural patterns to those of the host society." That is, acculturation is either "behavioral and/or cultural assimilation", with changes in cultural values and/or behavior, as distinguished from "structural assimilation", which involves the large-scale entrance of the incoming group into cliques, clubs, and institutions of the host society, on a primary group level (Gordon 1964). Although an immigrant group may be culturally assimilated (e.g., experienced a change in sentiments and attitudes), this same group may be excluded from "sharing their experience" because the receiving group erects barriers to social participation, hence the absence of structural assimilation. According to Gordon's findings, assimilation in the United States has been one of massive acculturation or behavioral/cultural assimilation, as well as the maintenance of considerable structural separation -- one of the main points of focus in Ogbu's study of Black Americans. But as Ogbu contends, the structural subordination of Chinese Americans began to change during the Second World War when America and China became allies. The new image of the Chinese as 'faithful allies' encouraged white employers to hire Chinese for high-level jobs; that is, the job ceiling against the Chinese was raised (Ogbu, 1983). Along with this came the breakdown of residential segregation (i.e., Chinatowns) as Chinese, especially new professional immigrants, were allowed to buy homes in predominantly white areas. What this current study will attempt to explore is the nature and extent of the behavioral and/or cultural assimilation (i.e., acculturation) of the Chinese as an ethnic group. As some investigators contend, although some members of an immigrant group may model the receiving group behaviorally--for example, in terms of dress, language, and dietary preferences--culturally their intrinsic characteristics, such as their values and attitudes, may remain unchanged and true to the ethnic culture. Thus, while behavioral assimilation may be evidenced early in the acculturation process among immigrants and second generation individuals, cultural or attitudinal assimilation may not occur until later generations. The following studies on acculturation reveal that, although cultural values are often retained among second and even third generation ethnic minorities, these values eventually become attenuated and replaced by those of the host society.

In a study of the changing achievement patterns of the Japanese in the United States, Kitano (1962) looks at the achievement and other aspects of school performance of second generation Japanese Americans (the Nisei). He narrows his research down to two questions: 1) "Is there a change in school achievement patterns of the Japanese group in the United States?" and 2) "Is there a change in the patterns of school social activity of the Japanese in the United States?" According to Kitano, school success has been seen by some writers to be one of the most important factors in determining the successful adaptation of an immigrant group to the American culture. Because academic achievement is one of the most important methods of utilizing the opportunities available in our society, studying the changing patterns of school achievement for an ethnic group such as the Japanese Americans is of major importance.

To define school achievement, Kitano used the grade point averages (GPA's) of graduating Japanese-American students who had attended the same public high schools from 1941 to 1959. These students were the American-born children of the Issei (first generation immigrants), and were to be found in American schools from the late 1920's through 1950. Kitano looked at results from two high schools (high school A and high school B). The results from high school A reveal that the mean GPA of students graduating in 1941 was 8.27; for students graduating in 1952, the mean GPA was 7.57, and for students graduating in 1955, the mean GPA was 7.33 (note: grade point averages were recorded on an 11 point scale, with grade A = 11, A- = 10, B+ = 9, B = 8, B- = 7, C+ = 6, and C = 5). As evidenced by high school A, there was a gradual but steady decline in GPA scores from 1941 to 1955. His results for high school B show a similar decline, from 7.75 in 1952 to 7.08 in 1959.

In measuring social participation in school activities, Kitano came up with some very interesting findings. Types of school activities ranged from membership in an academic honors group to participation in more general high school clubs. From 1941 to 1960, there is a general trend toward a decreasing participation in academic groups and an increasing participation in general multi-club activities (i.e, overall social participation). For example, the number of students participating in academic honor groups steadily decreased from 13 in 1941 to only 1 in 1960; in contrast, the number of students participating in more general clubs steadily increased from 6 in 1941 to 16 in 1960. Thus, there seems to be greater participation in overall social activities over time.

It is generally revealed that in private interviews and discussions with school teachers, Nisei children are often described as "ideal" students -- that is, quiet, studious, and industrious -- and the Japanese have benefited greatly from this positive stereotype (Kitano, 1962). One of the aims of Kitano's research was to show if there is any indication that acculturation may be hurting this image. From the results of his study, Kitano concludes that the longer the Japanese group resides in the United States, the less it is oriented toward achievement. According to him, if this trend continues, the stereotype of overachievement will no longer hold in the future. Kitano explains that such change is due to acculturation. Here, Kitano gives a simple definition of acculturation: "the term refers to a learning process by which an individual or group learns the behaviors acceptable in a given culture."

Although acculturation might look at variables of dress, language, and choice of food, Kitano argues that such variables are quite superficial, though "they could be indications of deeper changes within a group." What is more important is to examine the changing definitions of the student role: "the Japanese student brings to school from his home attitudes and behaviors which are highly congruent with school expectations. The reinforcement of these attitudes and behaviors at home and at school produced high motivation for maintaining the student role. The subsequent changes in the behavioral patterns of the group can be hypothesized as resulting from changing definitions of the student role and from wider opportunities." Kitano discusses Coleman (1960) who indicates that the social system of a high school is of primary importance in defining and shaping the behaviors of its students. Coleman's theory appears to provide a valid explanation of what is happening to the Japanese student, according to Kitano. As he/she becomes more acculturated and takes on a more active role in the high school system, the value of being a non-participant and rigidly studious becomes less (Kitano, 1962). The rising social participation of the group in the high school system (i.e., in non-academic social activities) is thus an indication of the interaction between opportunity and changing student role definitions.

Kitano suggests that early in their adjustment to the United States, the Japanese were segregated, with "corresponding social controls and a Japanese identity reinforced by an organized ethnic community and the lack of opportunities to participate in the broader community." However, with a breakdown of the ethnic community and increasing opportunities to participate in the broader community, the behaviors of this group are changing from typically Japanese to American. The author offers the example of the current Sansei generation, where behaviors are now approaching the American middle class in terms of academic achievement and social participation. He hypothesizes that the trend is towards a more all-around personality, with the scholarly role no longer so desirable.

Kitano believes that the lowering of academic achievement for this group should be looked upon with great concern, particularly since one of the main reasons for the current success of the group has been its ability to advance through higher education. As he suggests, it could be a measure of alienation or anomie when members of the group give up and stop trying to achieve in school because of the uselessness of this means for achieving future success in the American culture. In relating a study that indicates there is a rising rate of crime and delinquency among Japanese Americans, Kitano believes that the initial position of high academic achievement and low delinquency for Japanese Americans is now reversing itself: as the rate of crime and delinquency rises, slowly approaching the rates generally found in major groups of American society, there is a corresponding lowering of academic achievement to broader norms of greater society. Despite this trend, Kitano believes that there is good arising out of this situation; namely, the wider participation of Japanese in American society indicates that there is "growing acceptance and opening of opportunities for this group."

Kitano's study extended work done nearly a decade earlier by Caudill and De Vos (1956) who, in their examination of Japanese Americans, were among the first researchers to explore the influence of acculturation on achievement. In "Achievement, Culture, and Personality: The Case of the Japanese Americans," Caudill and De Vos (1956) contend that the general above-average success of Japanese Americans is attributed to certain personality traits that are culturally-based. Noting that much of the current literature on achievement has focussed on the importance of hereditary or learned individual abilities (as in the relationship between I. Q. scores and educational or occupational success), they set out to explore the influence of cultural values on personality structures, and how such structures ultimately contribute to the high-achievement orientation and definition of Japanese Americans. Caudill and De Vos believe that a compatibility exists between the value systems found in the culture of Japan and the value systems found in American middle-class culture. According to them, this compatibility gives rise to a similarity in the psychological adaptive mechanisms which are most commonly used by individuals in the two societies as they go about the business of living. As the authors note, however, this hypothesis does not say that the social structure, customs, or religion of the two societies are similar. Although both societies share the values of politeness, respect for authority and parental wishes, duty to community, diligence, cleanliness and neatness, emphasis on personal achievement of long-range goals, importance of keeping up appearances, and others (i.e., values that contribute to high achievement), the psychological motivations underlying such tendencies occur within quite different cultural matrices (Caudill and De Vos, 1956). For example, the shared value that parents should help their children achieve long-range goals exists differently in the Japanese matrix; here, there is an unquestioned expectation that children will return to fulfill their obligations to their parents. This "unquestioned expectation", Caudill and De Vos hypothesize, may be one mechanism that creates within Japanese Americans an ego structure "that is very sensitive and vulnerable to stimuli coming from the outer world, and a superego structure that depends greatly upon external sanction." Middle-class Americans may have similar psychological structures that depend on external sanction, but not nearly to such an extent.

Caudill and De Vos also suggest that such cultural patterns (which include such things as the determination to push ahead no matter what the obstacles), have been passed on from the Issei (the first generation immigrant parents) to their children (the Nisei) as part of the Japanese value system and character structure. What they note, however, is that these orientations have become somewhat attenuated from one generation to the next. The Nisei, unlike their aging parents the Issei, must find achievement and success within an American white middle-class world. Although the Japanese values and adaptive mechanisms learned from the Issei help the Nisei in such achievement, they cannot both live up to the expectations of the American world and, at the same time, fulfill their Japanese obligations to their parents. Consequently, the Nisei are bound to experience conflict with their Issei parents, although they cannot openly express this.

A more recent study which supports the hypothesis that having a strong ethnic identity counters low achievement is one by Okano and Spilka (1971). Their study examines the hypothesis that ethnic identity counters the alienative feelings attributed to minority status and supports achievement values. As in the two previous studies, different generations of Japanese-Americans were evaluated, and the findings show that adolescents who identified strongly with their Buddhist background scored higher in both academic achievement and alienation compared with their more acculturated Japanese-Christian counterparts.

Finally, there is one pertinent, non-Asian study which examines acculturation and its effect on school achievement. In their study of the Chicano group in the United States entitled "Unidirectional or Nativist Acculturation--Chicano Paths to School Achievement," James Vigil and John Long present findings which contradict the assumption that the educational performance of some ethnic minorities--in this case Chicanos--advances concomitantly with the degree of unidirectional acculturation. The study's findings fail to support the widely held proposition that Chicanos improve academically after they evidence Anglo-American sociocultural traits, especially the functional use of the English language. Vigil and Long offer conclusions that weaken this thesis and suggest that not only do Anglicized Chicanos have many problems (e.g., social and psychological problems), but that unacculturated Chicanos do better in school. In looking at generational distance as an indicator of acculturation, Vigil and Long found that generational distance is correlated *inversely* with academic grades. One of the major arguments for the greater success of unacculturated Chicanos is that parental supervision by recent immigrants differs from that of lifelong residents (i.e., recent immigrants offer closer, more traditional patterns of parental supervision which argue for their children's greater success in school). According to Vigil and Long, by retaining their native cultural style, the unacculturated, Mexican-oriented students also had a greater sense of ethnic pride and maintenance, which was reflected in a consistent and more stable psychological orientation.

In light of the theories reviewed, the aim of this current study will be to examine the effect of 'elements of one's culture' on academic achievement, specifically, to question the impact of the Chinese culture on Chinese students in Canada. Because of cultural differences in socialization, do recent Chinese immigrants excel at school and do better than Westernized Canadian-born Chinese students and immigrants who have lived in Canada most of their lives? What about Canadian-born Chinese students and immigrants who have lived in Canada most of their lives but who have retained traditional values that nurture 'academic socialization'? How well do they achieve in comparison to classmates who are low in these traits?" The author of this study speculates that students who are close to their culture and retain certain traditional Chinese values that promote ‘academic socialization’ differ in their school performance from more acculturated students, and that this difference is significant and observable. Reiterating Ogbu, the Chinese, as an immigrant minority, have been highly successful in the public schools in spite of structural and cultural subordination. One of Ogbu's theories is that the success of the Chinese group in North America may be attributed to a cultural respect for learning and value of education as a means of self-advancement, together with a family structure and relationships which encourage children to work hard in school. In this study, we will examine these explanations by emphasizing the impact of cultural values on a child's achievement orientation, and the retention and attrition of such values on overall school performance.

III. METHOD AND PROCEDURE

A. Research Design

The objective of this study is to examine whether students who associate closely with the Chinese culture do better in school than acculturated students. To do this, factors such as demographic data (e.g., length of residence in Canada), linguistic and cultural background data (e.g., Chinese language ability, relationships with other Chinese, cultural maintenance, and ethnic identity), and various academic socialization categories based on previous research are analyzed to see if a correlation exists between having strong cultural ties and academic performance.

With respect to the demographic data, two groups of Chinese-Canadian students are identified: Chinese who have resided in Canada 10 years or less and who are termed 'short-term residents', and Chinese who were either born in Canada or have lived in the country for more than 10 years and who are termed 'long-term residents'. Differences between the two groups will be examined to see if a relationship exists between degree of assimilation and the academic achievement and values/attitudes of these students toward school. The proposition is that short-term residents tend to do better in school than long-term residents because of a greater retention of traditional Chinese attitudes/values toward education. The role of traditional Chinese attitudes/values toward education on student performance is intrinsic to an ongoing theory that attributes the success of high-achieving Chinese students to early academic socialization. The compelling reason to study the academic performance of short- and long-term Chinese residents in Canada is to examine more closely the influence of Asian culture on educational development, and whether such influence is homogenous between the two groups.

This study originally sought to examine differences in school performance and values and attitudes among different generations of Chinese-Canadian students. However, because of the very small number of fourth and even third generation Canadians of high school age this study did not attempt such an examination. The majority of Chinese students in the Edmonton high school studied were either immigrants (first generation Chinese Canadians) or second generation Chinese Canadians (the children of immigrants). For a good working size sample, therefore, the population studied was divided into the two groups described above. The two groups are hypothesized to be different in terms of academic socialization; this being manifested in differences in the retention of traditional Chinese values as well as academic performance.

There is a reason why students who have lived in Canada for more than 10 years are grouped together with Canadian-born Chinese as 'long-term residents'. As teenagers, these students have lived in Canada most of their lives; they have experienced many of the same practices and ideals of Canadian culture as Canadian-born Chinese. Some have even abandoned the language of their ancestors and have become fully acculturated in this country. On the other hand, short-term residents are composed of immigrants who either came to Canada recently or as elementary-age children. These individuals still identify strongly with their Asian roots, either retaining many traditional Chinese values and practices or were greatly impacted by them as young children. The aim of the methodology, therefore, will be to explore whether short-term resident Chinese students excel at school and do better than long-term residents. One may additionally question the achievement potential of Canadian-born Chinese students and immigrants who have lived in Canada most of their lives but who have retained traditional values. How well do they achieve in comparison to classmates who are low in these traits? If it can be shown that they outperform other long-term resident students, this may indicate that "closeness to one's culture" positively influences school performance.

Chinese language ability, relationships with other Chinese, cultural maintenance, ethnic identity, and various categories of academic socialization are also examined in this study for their effect on academic performance. An analysis of these variables provides a measurement of acculturation to correlate with academic performance; for example, if we find that students who have many contacts with other Chinese do better than students who have few such contacts, this supports once again the "closeness to one's culture" hypothesis.

B. Research Site and Sample Selection

In order to control for socioeconomic status, subjects for the study were selected from a high school in south Edmonton with a sizable population of Chinese Canadians but of similar class background. The school chosen comprises many students of various ethnic backgrounds and is the largest in the province of Alberta. It is situated in an area of Edmonton where the socioeconomic status is fairly homogenous, being middle-class. Since a small subset of a larger population (i.e., Chinese-Canadian students from the general Chinese population in Edmonton) was to be studied, purposive sampling was applied so that the members of this subset would be easily identified.

The participants in the study were Canadian citizens or landed immigrants of Chinese descent, and had attended the high school when the data was collected in December 1993. Because it was important to have a large enough number of respondents for statistical analysis and to provide as accurate a portrait of Chinese Canadians, this study took into account as many participating Chinese students at the selected high school as possible. A total of 102 students of Chinese origin volunteered to participate in the study, and this number was divided between 58 students who have lived in Canada 10 years or less and 44 students who have lived in the country more than 10 years. This number (102 students) is approximately half of the school's total Chinese population.

Those respondents who were not born in North America were either born in Hong Kong, Taiwan, Vietnam, or China (these being referred to in the study as 'Asian-born'). It is interesting to note that there was a slightly greater number of Asian-born students than North American-born students in the study (61 Asian-born versus 41 North American-born), reflecting the relatively recent increase of immigrants to Canada from Asian countries. Of the 61 Asian-born students, 30 were born in Hong Kong, 16 in Taiwan, and 15 in Vietnam or other Southeast Asian countries.

Although the majority of subjects (72%) listed 'China' as the birthplace of their grandparents, this country was cited by only 40% of the students as the birthplace of their *parents* ; this was particularly the case with Asian-born students. Many Asian-born students listed other Asian regions--Taiwan, Hong Kong, and Vietnam--as the birthplaces of their parents. This suggests that there has been an outward movement and settlement of immigrants from China (original homeland) to other parts of East Asia. Whereas Asian-born students tended to list Hong Kong, Taiwan, and Southeast Asian countries such as Vietnam as the birthplaces of their parents, most North American-born Chinese students tended to list 'China' as the birthplace of their parents. This reflects the earlier immigration patterns of more acculturated Chinese families in the 1940s, 50s, and early 60s; the grandparents *and* parents of North American-born Chinese young people emigrated from China directly to North America without settling in other parts of East Asia first. Thus, most parents of Asian-born students were born in Hong Kong, Taiwan, and Southeast Asian countries such as Vietnam because the grandparents had emigrated from China to settle in these regions.

To assess students' length of residence in Canada, it was convenient for the purpose of the study to separate those individuals who have lived in Canada for more than 10 years (long-term residents) from those who have lived in the country 10 years or less (short-term residents). Included in the former group are all Canadian-born individuals as well as immigrants with Canadian citizenship status who have resided in Canada since at least the age of three. Because they have lived in Canada most of their lives, these immigrants have absorbed many North American traits characteristic of the Canadian-born group and are therefore labelled 'long-term residents'. There were 44 long-term residents (43.1%) in the study compared to 58 short-term residents (56.9%). Again, the slight over-representation of short-term residents in the sample may be due to increased immigration to Canada from Asia within the past decade.

Subjects for the study ranged in age from 14 to 20, with the majority of students (94 students) 15 to 18 years old. Among the grade levels, 28 students were from grade 10, 37 students were from grade 11, and 37 students were from grade 12. The number of female students who volunteered for the study was slightly greater than the number of male students (57 versus 45).

C. Instrumentation and Data Collection

A questionnaire covering personal, sociocultural, and subcultural attitudes and practices was administered to the students. Because it was anticipated that the number of Chinese students attending the high school would be large, a multi-itemed questionnaire designed to gather as many responses as possible was considered to be the most practical instrument for the study and the most feasible to describe the characterisitics of a large population. All of the categories in the questionnaire (e.g., demographic data, linguistic and cultural background data, and academic socialization data) were formulated to operate as measures of acculturation, since the objective of the study is to compare degree of acculturation with academic performance.

Part One of the questionnaire was designed to gather information about the respondent's demographic characteristics (e.g., respondents' birthplace and the birthplaces of parents and grandparents; respondent's age, sex, grade level, and length of residency in Canada), and linguistic and cultural background characteristics (e.g., Chinese and/or English linguistic ability, cultural maintenance, ethnic awareness and ethnic identity preference, and relationships with other Chinese). The data gathered from this part of the questionnaire provides perhaps the most obvious measure of a student's acculturation.

Included under the rubric of cultural maintenance were questions about interest and involvement in Chinese culture and sociocultural activities, ceremonies, and culinary traditions. Like all the other categories, cultural maintenance was formulated to assess degree of acculturation and how it affects a student's academic achievement. However, whereas cultural maintenance primarily measured the extrinsic characteristics of acculturation, ethnic awareness and ethnic identity preference tended to gauge a student's inner "Chineseness". Thus, questions of ethnic awareness and ethnic identity asked about how the individuals defined and perceived themselves in relation to mainstream society, whether their Chinese heritage was important to them and how they felt being "different" as a minority, and whether they would date/marry someone who was Chinese.

Under the category of relationships with other Chinese, questions were asked about the extent to which the individual's primary contacts were focussed on other Chinese people. These included questions about how many of the individual's closest friends were Chinese, family contacts with other Chinese people, and frequency of contact with people of Chinese descent in Edmonton.

Questions measuring level of academic socialization comprised Part Two of the questionnaire; these items assessed parental attitudes and practices in childrearing, family involvement in the child's perception of school demands, students' attitudes toward school and work, assessment of students' general personality characteristics, and self-assessment of the interviewee's current responses to academic challenges and career goals. These questions are based on the previous research of people like Mordkowitz and Ginsburg, Sue and Kirk, Stevenson and Lee and others who abstract 'prototypical tendencies' in childrearing which they claim favor positive learning outcomes. Questions were designed to assess the following prototypical tendencies: committment to education, emphasis on effortful excellence, parental activity supervision, adaptive classroom attitudes, high priority on education, low verbal interaction, and students' perception of an Asian versus white upbringing (what researchers such as Mordkowitz and Ginsburg refer to as 'seeing as others see us').

Part Three of the questionnaire was designed to assess a student's academic performance. Students were asked to give a self-assessment of their work in school by providing marks for all core subjects including overall grade average, as well as listing any academic awards they may have received. Additionally, to assess the relationship of school performance and acculturation, grade point averages as well as subject scores were collected from school records and compared with the above quantified measures derived from the questionnaire responses. While they do not necessarily reflect the uniform and total picture of scholastic achievement, grade point averages do constitute an emic measure of educational success.

A pre-test of the questionnaire included Chinese males and females of both short and long-term resident groups. Several modifications to the questions and categories of response were made as a consequence of this test.

The revised questionnaires were administered to 102 participants at the high school during the second week of December in 1993. Participants completed the questionnaire in the school's auditorium during lunch hour over a period of two days. Additional completed questionnaires were collected at the end of the week. Prior to the administration of the questionnaire, consent letters were handed out to all participants which outlined to the parents/guardians the intent of the study as well as assurance of complete confidentiality of all answers and student grades.

To back-up students' self-assessment of academic performance, respondents were asked to provide names on a slip attached to the front of the questionnaire. By acquiring the names of the participants, identification and retrieval of grades from school records were made feasible. Grades from a particular student's school record were then matched with the individual's self-assessment. For data analysis, mean scores in mathematics, science, English, and social studies as well as grade point averages were collected from school records of each participant. Upon completion of this grade confirmation, all the name slips attached to the questionnaire were destroyed to maintain student anonymity. For data processing and subsequent identification purposes, a number was assigned to each of the completed questionnaires in place of the students' names.

D. Data Processing

Because revisions made on the pre-test were minor, the pre-test answers were also included in the data analysis. Since this is not an experimental design and the purpose of collecting data from as many young Chinese Canadians as possible was desirable, it was felt that this would not seriously compromise the research design.

After the responses were coded and entered, the data were analyzed with SPSSX. First, frequency distributions were run for each item and recoding was undertaken. By using the frequency distributions, high, medium, and low groups were assigned for each category. Because it has a good means test, analysis of variance was conducted to examine the relationship between the categories (independent variables) and their impact on mean scores in mathematics, science, English, social studies, and GPA. Among the independent variables were cultural maintenance, ethnic identity, demographic data (e.g., student's birthplace), Chinese language ability, relationships with other Chinese, and eight academic socialization variables developed from the work of other researchers. The association between these variables and students' mean scores and academic self-assessment was also tested with several control variables. These control variables, which were also employed as independent variables, included the personal information categories of students' length of residence in Canada and students' birthplace. These categories are known to be important factors in the studies on assimilation and identity and because it affects school performance particularly in certain subjects such as mathematics and English.

By using analysis of variance, patterns in the relationships between the independent variables and mean scores were described employing R Square (R^2) and level of significance. The independent variable of cultural maintenance, for example, was tested for its impact on mathematics, science, English, social studies, and GPA. In providing a good means test, analysis of variance therefore allowed one to assess the relationship of school performance and acculturation by correlating students' academic achievement with the quantified, coded measures of acculturation derived from questionnaire responses.

In this chapter, first, research methods employed in the study were described: what the purpose of the study was; what the variables were; how the variables were measured; who the subjects were; and how the data were collected and analyzed. Second, some background characteristics of the subjects were described. In the next chapter, analysis and interpretation of the data are presented.

IV. ANALYSIS AND INTERPRETATION OF DATA

The analysis in this chapter focuses on the examination of various independent variables and their impact on mean scores in mathematics, English, social studies, science, and student grade averages (GPA). Analysis of variance was conducted to examine the relationship between these mean scores and a number of independent and control variables.

Among the independent variables examined were demographic data (e.g., student's length of residence in Canada) and linguistic and cultural background data (e.g., Chinese language ability, relationships with other Chinese, cultural maintenance, and ethnic identity and preference). Hypotheses concerning their impact on mean scores were tested and patterns in their relationships noted. In addition, analysis of variance was used to examine the effect of independent variables pertaining to 'ethnically based academic socialization' on mean scores. These variables are primarily based on previous research about the early academic socialization of successful Asian-American college students. Here, hypotheses about the socialization of exemplary school achievement will be tested in an attempt to study the influence of Chinese culture on educational development.

The control variables used the analysis were students' length of residence in Canada and student birthplace. These variables were chosen as control variables because they are frequently the focal point of interest in acculturation studies and are considered to have a major impact on school performance (e.g., Kitano's study which claims that the longer the Japanese group resides in the United States, the less oriented it is toward achievement). When the control variables were observed to be more significant--that is, in influencing academic scores--than an independent variable (e.g., cultural maintenance) this was noted in the analysis under separate tables. Generally, both length of residence and student birthplace tended to act similarly throughout the analysis. For example, if length of residence had a larger impact than one of the independent variables on academic scores, then student birthplace also had a similar effect.

As mentioned in the theoretical framework of this thesis, researchers such as Mordkowitz and Ginsburg, Stevenson and Lee and others abstract 'prototypical tendencies' in childrearing which they claim favor positive learning outcomes. These prototypical tendencies include committment to education, emphasis on effortful excellence, parental activity supervision, adaptive classroom attitudes, high priority on education, low verbal interaction, and students' perception of an Asian versus white upbringing (what Mordkowitz and Ginsburg refer to as 'seeing as others see us'). In addition, a separate independent variable was created entitled 'success orientation'; this independent variable was included in the study and will also be examined for its impact on school performance.

A. DEMOGRAPHIC DATA:
LENGTH OF RESIDENCE IN CANADA AND BIRTHPLACE

1. STUDENTS' LENGTH OF RESIDENCE IN CANADA

For students' length of residence in Canada, it was hypothesized that Chinese students who have lived in Canada 10 years or less experience greater success in school than Canadian-born Chinese or long-term residents of Canada, due to their closer association with Chinese culture.

To assess students' length of residence in Canada, respondents were divided into two groups: short-term and long-term residents. Short-term residents are individuals who have lived in Canada for 10 years or less, long-term residents are individuals who are either Canadian-born or who have resided in Canada for more than 10 years. Because they immigrated to Canada at a very young age, individuals who have spent at least 11 years in this country--that is, nearly all their lives-- are regarded as long-term residents, and can be assumed as influenced by Canadian culture as those individuals born here. This is evidenced in the questionnaires where many of these individuals, like their Canadian-born classmates, responded by saying they speak little or no Chinese and have abandoned some the more traditional customs of Chinese culture.

What is peculiar about the data is that, although students' length of residence does not appear to have a significant effect on students' overall average or GPA, it does have an impact on some individual courses such as math and

English (Table 4:1). In the case of math, the effect is significant at the .0001 level; the mean score for long-term residents is 74.4%, in comparison to 84.1% for short-term residents. For English, long-term residents score 71.7%, while short-term residents average 66.3%. Not surprisingly, the better grasp of English of long-term residents accounts for their higher scores, and the effect of students' length of residence on English is therefore significant at the .04 level.

In the case of GPA, social studies, and science, however, students' length of residence has no significant effect on mean scores. For GPA, the impact is small and not significant and is reflected in the scores: long-term residents have a mean GPA of 73.5% and short-term residents 76.6%. For social studies, there is a slightly greater, though not significant, influence by length of residence as long-term residents average 74.4% compared to short-term residents' 69.0%. Again, as with the case of English, fluency in the English language probably accounts for the higher social studies scores of long-term residents. For science, short-term residents do only slightly better than long-term residents (79.4% versus 78.1%, respectively).

Table 4:1- Effect of Length of Residence in Canada on Academic Performance

	Mean Scores					
Length of Residence in Canada	Math	English	Social Studies	Science	GPA	N
Long-term resident	74.4%	71.7%	74.4%	78.1%	73.5%	44
Resident 10 Years or Less	84.1%	66.3%	69.0%	79.4%	76.6%	58
sig=	.0001	.04	.06	.58	.12	

2. STUDENTS' BIRTHPLACE

For students' birthplace, it was hypothesized that school achievement is influenced by location of birth in that higher school achievement would be experienced by Asian-born students, and lower school achievement by North American-born students.

Students' birthplace was assigned two areas: Asia and North America. 'Asia' refers to Chinese students born in China, Taiwan, Hong Kong, and Vietnam (or another southeast Asian country), while 'North America' refers to students born in either Canada or the United States.

The data (see Table 4:2) reveals that students' birthplace matters when mathematics is taken into consideration, but has no substantial effect on other subjects or a student's overall academic average; for science, however, Asian-born students tend to do slightly better than North American-born students (79.4% versus 77.9%). Similarly, the data for GPA shows that Asian-born students do slightly better than North American-born students (76.6% versus 73.1%), although the difference is not significant.

For math, the impact is significant at the .002 level where students who are born in Asia do considerably better than their North American counterparts (82.9% versus 74.9%). In the case of English, however, North American-born students do better than Asian-born students (71.3% versus 66.8%), though this difference is not statistically significant. Similarly, for social studies, North American-born students tend to outscore Asian-born students (73.8% versus 69.3%), but again this is not significant.

Table 4:2 - Effect of Students' Birthplace on Academic Performance

	Mean Scores					
Students' Birthplace	Math	English	Social Studies	Science	GPA	N
Asia	82.9%	66.8%	69.3%	79.4%	76.6%	61
North America	74.9%	71.3%	73.8%	77.9%	73.1%	40
sig=	.002	.09	.12	.52	.09	

It is interesting to note that although students' length of residence in Canada and students' birthplace did not have a significant influence on GPA, the *gender* of the respondents did have an impact (Table 4:3). The data shows that female students tended to do better than male students in GPA (77.1% versus 73.0%), and that this difference is significant at the .04 level. Overall, female students did slightly better than male students in all subjects (including math and science)--in terms of mean scores-- but these differences were not significant .

Table 4:3 - Effect of Student's Gender on GPA

Gender	GPA	N
Male	73.0%	45
Female	77.1%	57
sig=.04		

B. LINGUISTIC AND CULTURAL BACKGROUND DATA

1. CHINESE LANGUAGE ABILITY

Students who have strong Chinese skills are assumed to have closer ties to Chinese culture than those who have little or no Chinese skills; hence it was hypothesized that such individuals would also experience greater academic success than individuals whose primary or only language is English.

In the study, language ability in Chinese was analyzed for its impact on academic achievement. Respondents were asked to rate their ability in Chinese speech, writing, and reading, on a scale of 'none, little, some, or excellent'.

From the data in Table 4:4, it can be seen that students who have high Chinese skills score much higher in particular subjects than students with low Chinese skills. This is most evident in math, where students with high Chinese skills score an average of 84.0%, compared to students with low Chinese skills who score 74.7%. Here, the relationship between Chinese skills and math scores is significant at the .0002 level. On the other hand, students who have high Chinese skills do not fare as well as low Chinese-skills students in English: 66.3% versus 71.5%. The relationship between Chinese skills and English is significant at the .05 level, underscoring the fact that many of those who have strong Chinese skills are recent immigrants to Canada, and therefore understandably have greater difficulty in the subject than their classmates.

Having high or low Chinese skills does not matter significantly when it comes to social studies, science, or GPA; nevertheless, it can be seen that high Chinese-skills students do slightly better than their low Chinese-skills classmates. In the case of GPA, for example, students high in Chinese skills score an average of 76.6%, compared to 73.6% by students low in such skills.

Table 4:4 - Effect of Chinese Skills on Academic Performance

			Mean Scores			
Chinese Skills	Math	English	Social Studies	Science	GPA	N
High	84.0%	66.3%	69.2%	79.6%	76.6%	58
Low	74.7%	71.5%	73.9%	77.9%	73.6%	44
sig=	.0002	.05	.10	.45	.15	

2. RELATIONSHIPS WITH OTHER CHINESE

Individuals who have close contacts with people of their own culture are more likely to be immersed in that culture; hence it was hypothesized that those students who have more contacts with other Chinese do better in school than those who have few or no contacts.

Students' relationships with other Chinese was evaluated by asking respondents how often they meet people of Chinese descent in Edmonton (either with relatives, friends, or at social events), how many of their closest friends are of Chinese descent, and whether or not their families have close contacts with other Chinese people.

Interestingly, the data show that Chinese contact has an impact on math scores only. A small positive relationship of $R^2 = .06$ exists between the two variables which is significant at the .04 level. Comparing the three contact groups, one can see that the highest math scores were attained by the high and medium groups-- 82.9% and 81.2%-- respectively, while the low contact group averaged 75.2%.

In the case of English, social studies, science, and GPA, Chinese contact does not have a significant impact; note, however, that with both English and GPA, the highest scorers were consistently students in the *medium* contact group and not the high or low contact group. One may speculate that students who have a medium number of Chinese contacts are, in effect, neither fully acculturated individuals who have lost close ties with the Chinese culture nor recent immigrants still facing problems of adjustment in an alien Western culture. It is very probable that higher achievers tend to experience a "middle ground" of adjustment in their acculturation, and this middle ground appears to be highly favorable to academic success. These individuals may not have relinquished all their Chinese traits (like fully Westernized Chinese), but have retained those elements of Chinese culture most conducive to achievement. This assumption appears to find support in the study by Caudill and De Vos. As mentioned in the literature review chapter, Caudill and De Vos claim that in the case of Japanese Americans, traits which are highly conducive to academic and career achievement are often retained in the second (Nisei) and even third (Sansei) generations, but become somewhat attenuated beyond these groups.

This situation may also be the case with Chinese Canadians.

Table 4:5 - Effect of Chinese Contacts on Academic Performance

			Mean Scores			
Chinese Contacts	Math	English	Social Studies	Science	GPA	N
High	82.9%	67.9%	72.1%	82.0%	75.0%	26
Medium	81.2%	68.7%	69.9%	79.5%	76.9%	36
Low	75.2%	68.3%	72.2%	75.4%	73.2%	36
R^2=	.06	.0001	.0002	.06	.01	
sig=	.04	.98	.76	.08	.30	

C. CULTURAL MAINTENANCE

For cultural maintenance , it was hypothesized that students who maintain strong ties to their Chinese culture would do better academically than those who do not.

The maintenance of culture pertains to the extent to which respondents participate in activities which are typically Chinese. This included questions about the frequency of eating Chinese food at home, going to Chinese social functions, using Chinese medicines, observing Chinese customs, etc. To ascertain weakness of cultural maintenance, questions were also asked about participation in typically Western activities, like the frequency of watching Western (English language) movies and listening to Western music.

As indicated in Table 4:6, cultural maintenance does not appear to have a significant impact on either math, English, science, social studies, or GPA scores. Differences between groups that are high, medium, and low in cultural maintenance are not large. In the case of math, for example, there is only a small positive relationship of R^2 = .03 between cultural maintenance and math scores which is not significant at the .05 level. In other words, about 3% of the difference in math scores is accounted for by differences in cultural maintenance. Those students who score high on cultural maintenance have a mean score of 81.1%, while those who score medium and low have mean scores of 82.4% and 76.2% respectively.

A similar situation can be seen with respect to English, social studies, and science scores. As with math, it is those in the mid-level of cultural maintenance who score highest. Indeed, it is this nonlinearity that may account for the low R^2 and levels of significance. In the case of English, students who score high in cultural maintenance average 66.4%, while those who score medium and low average 70.8% and 69.4% respectively. Cultural maintenance appears to have an even smaller impact on social studies and science scores. In each case, it is those in the middle category of cultural maintenance who score highest. The relationship between cultural maintenance and *total* GPA, though somewhat significant at the .02 level, has an R^2 of only .01. Students who are high in cultural maintenance have a mean GPA score of 75.0%, while those who are medium and low have mean scores of 79.3% and 72.3% respectively. This phenomenon where mid-level groups do best was also evidenced in the category of Chinese contacts.

Both Chinese contacts and cultural maintenance were included in the study because it was thought that they would be related to those variables Mordkowitz and Ginsburg and others found important in affecting academic performance. It can seen here, however, that they are not as influential as initially hypothesized. The original intention of this study was to use cultural maintenance as a control variable, but this was subsequently abandoned.

Table 4:6 - Effect of Cultural Maintenance on Academic Performance

	Mean Scores					
Cultural Maintenance	Math	English	Social Studies	Science	GPA	N
High	81.1%	66.4%	78.6%	79.0%	75.0%	40
Medium	82.4%	70.8%	72.2%	82.0%	79.3%	28
Low	76.2%	69.4%	71.5%	76.2%	72.3%	34
R^2=	.03	.01	.001	.01	.01	
sig=	.12	.39	.90	.14	.02	

In addition to the above analyses, the relationship between academic performance and cultural maintenance was also elaborated with two control variables: students' length of residence in Canada and students' birthplace. As a control variable, students' length of residence in Canada appears to have a markedly greater influence on academic scores than cultural maintenance

(Table 4:7). In math, for example, respondents who have lived in Canada *10 years or less* consistently do better than Canadian-born Chinese or Chinese who have lived in Canada more than 10 years. In the high cultural maintenance group, short-term residents average 83.0%, while long-term residents average 75.8%. In the medium cultural maintenance group, short-term residents average 87.1%, long-term residents 69.1%. With the low cultural maintenance group, short-term residents average 79.4%, and long-term residents 75.3%. The situation is reversed with English and social studies. In both cases, long-term residents do better than short-term residents because of the English language ability factor, and again underscores the greater impact of length of residence. Note, however, that although the differences between high, medium, and low cultural maintenance groups in both long and short-term resident categories are only slight (when compared to the differences between length of residence categories themselves), an interesting relationship *is* observed between cultural maintenance and long-term resident status. With the exception of English, the highest scorers in math, social studies, science, and GPA are long-term residents who are strongest on cultural maintenance. In all four cases, although the difference in percentage scores are not very large, the combination of the two variables acts to elevate performance.

Another unusual pattern is observed when one examines the relationship between cultural maintenance and *short-term resident status*. In math, English, social studies, science, and GPA, the highest scorers among short-term residents are those individuals who are *medium* in cultural maintenance. It is probable that among short-term residents, those who are in the middle of their cultural transition--that is, in the process of acquiring many Canadian habits (e.g., food preferences, mannerisms) yet retaining a fair amount of Chinese *values and traditional customs* -- may experience greater academic success than those who are well acculturated and who have abandoned traditional ways, or those who are still very much unfamiliar with Canadian culture and experiencing problems of adjustment.

The other control variable--students' birthplace-- also has a greater impact on mean academic scores than cultural maintenance (Table 4:8). For example, one can see quite a noticeable difference in mean math scores between students born in North America and those born in Asia; however, little difference is seen in the mean math scores among Asian-born students in high, medium, and low cultural maintenance groups. High cultural maintenance group Asian-born students score an average of 82.7% in math, medium cultural maintenance Asian-born students score 82.4%, and low cultural maintenance Asian-born students score 80.5%. In addition, the mean scores for North American-born students who are medium and low in cultural maintenance (74.0% and 74.8% respectively) vary little compared to the mean score of high cultural maintenance North American-born students (75.8%) .

The impact of student birthplace on other subjects is not as obvious, though North American-born students again tend to do slightly better than Asian-born students in the humanities subjects. Asian-born students also appear to do best when they are medium in their degree of cultural maintenance, again reflecting the 'mid-level acculturation phenomenon' (Table 4:8).

D. ETHNIC IDENTITY: ETHNIC PRIDE AND ETHNIC DIFFERENCES

It was hypothesized that ethnic identity counters the alienative feelings attributed to minority status and supports achievement values. To define ethnic identity, two categories were formulated: ethnic pride and ethnic differences. For ethnic pride, it was hypothesized that students who are proud of their Chinese background are academically more successful than those who are less proud. For ethnic differences, it was hypothesized that students who express greater consciousness of their ethnic differences do better those who see little or no difference between white people and themselves, or who are less conscious of their ethnic differences.

Ethnic pride pertains to students' positive attitude toward their Chinese culture, lending to greater self-esteem and self-acceptance. Respondents were asked questions about whether they were proud of their Chinese background, whether they wished to be white instead of Chinese, whether they felt uncomfortable around people who spoke Chinese in public, and how they would define their ethnicity in Canadian society (i.e., "Would you call yourself Chinese, Chinese Canadian, Canadian, etc.?").

Ethnic differences pertains to the degree of difference between the intrinsic and extrinsic cultural traits of the ethnic group and those of the core society. Students were presented with statements that assessed differences between their own values and those of their white classmates, their level of consciousness of being different in the presence of white people (and what, specifically, made them feel different from white people), physical differences, and differences in Chinese family structure versus white family structure.

The data indicate that ethnic pride does not have any significant impact on math or English scores or on GPA scores, but is significant in the case of social studies and science (Table 4:9). With math, those who have low pride in their Chinese background score a mean of 78.7%, while those who are highly proud score 80.6%. With English and GPA, one can see a larger though again not significant influence of ethnic pride on mean scores. Here, the mean English scores of low and high groups are 66.2% and 70.6% respectively and the GPA scores of those with low ethnic pride is 73.3% and those with high ethnic pride 76.8%.

In contrast, ethnic pride does matter when it comes to social studies and science. In the case of social studies, students in the high group of ethnic pride score an average of 74.3%, well above those students in the low group who score only 67.7%. The relationship between variables is significant at the .02 level. In science, the relationship with ethnic pride is significant at the .03 level, where high ethnic pride students score an average of 81.0%, while low ethnic pride students score 76.0%. As with cultural maintenance, when length of residence was controlled, the control variable was seen to have a greater impact on mean scores than ethnic pride. For example, in the case of mathematics, great variation can be seen in the mean scores between short and long-term residents, while the difference in mean scores among high and low ethnic pride groups is small (Table 4:10). Short-term residents who are high in ethnic pride score well above long-term residents who are also high in ethnic pride (84.6% versus 75.5%, respectively), but not considerably above short-term residents who are low in ethnic pride (83.3%). Likewise, Asian-born students do noticeably better than their North American-born counterparts, but the scores of those who are high in ethnic pride are not much different from those low in ethnic pride (Table 4:11).

Table 4:7 - Effect of Cultural Maintenance on Academic Performance Controlling for Length of Residence in Canada

Mean Mathematics Scores

	Length of Residence in Canada		
Cultural Maintenance	Long Term Resident	Resident 10 Years or Less	N
High	75.8%	83.0%	37
Medium	69.1%	87.1%	27
Low	75.3%	79.4%	33

R^2=.03
sig=.12

Mean English Scores

	Length of Residence in Canada		
Cultural Maintenance	Long Term Resident	Resident 10 Years or Less	N
High	73.4%	63.6%	33
Medium	74.7%	69.4%	29
Low	70.2%	66.6%	36

R^2=.01
sig=.39

Mean Social Studies Scores

	Length of Residence in Canada		
Cultural Maintenance	Long Term Resident	Resident 10 Years or Less	N
High	78.6%	67.6%	39
Medium	78.0%	70.4%	32
Low	72.0%	69.7%	30

R^2=.001
sig=.90

Mean Science Scores

	Length of Residence in Canada		
Cultural Maintenance	Long Term Resident	Resident 10 Years or Less	N
High	81.4%	78.0%	37
Medium	79.8%	82.6%	29
Low	76.4%	75.3%	34

R^2=.01
sig=.14

Mean GPA Scores

	Length of Residence in Canada		
Cultural Maintenance	Long Term Resident	Resident 10 Years or Less	N
High	76.7%	74.3%	35
Medium	76.3%	80.3%	37
Low	71.4%	75.3%	29

R^2=.01
sig=.02

Table 4:8 - Effect of Cultural Maintenance on Academic Performance Controlling For Students' Birthplace

	Mean Mathematics Scores		
	Students' Birthplace		
Cultural Maintenance	N. America	Asia	N
High	75.8%	82.7%	36
Medium	74.0%	83.9%	27
Low	74.8%	80.5%	33

R^2=.02
sig=.13

	Mean English Scores		
	Students' Birthplace		
Cultural Maintenance	N. America	Asia	N
High	73.4%	63.3%	37
Medium	75.3%	70.0%	29
Low	69.9%	68.0%	35

R^2=.01
sig=.37

	Mean Social Studies Scores		
	Students' Birthplace		
Cultural Maintenance	N. America	Asia	N
High	78.6%	66.9%	36
Medium	76.3%	71.4%	28
Low	71.7%	71.0%	37

R^2=.002
sig=.8

	Mean Science Scores		
	Students' Birthplace		
Cultural Maintenance	N. America	Asia	N
High	81.4%	77.9%	37
Medium	77.5%	82.8%	28
Low	76.6%	74.9%	35

R^2=.01
sig=.14

	Mean GPA Scores		
	Students' Birthplace		
Cultural Maintenance	N. America	Asia	N
High	76.7%	74.1%	36
Medium	76.5%	79.8%	29
Low	71.0%	76.0%	36

R^2=.01
sig=.02

Table 4:9 - Effect of Ethnic Pride on Academic Performance

	Mean Scores					
Ethnic Pride	Math	English	Social Studies	Science	GPA	N
High	80.6%	70.6%	74.3%	81.0%	76.8%	58
Low	78.7%	66.2%	67.7%	76.0%	73.3%	44
sig=	.47	.09	.02	.03	.08	

Table 4:10 - Effect of Ethnic Pride on Mean Math Scores Controlling for Length of Residence in Canada

	Mean Math Scores Length of Residence in Canada		
Ethnic Pride	Long Term Resident	Resident 10 Years or Less	N
High	75.5%	84.6%	56
Low	72.8%	83.3%	41
sig=.47			

Table 4:11 - Effect of Ethnic Pride on Mean Math Scores Controlling for Students' Birthplace

	Mean Math Scores Students' Birthplace		
Ethnic Pride	N. America	Asia	N
High	77.3%	82.5%	55
Low	71.9%	83.5%	41
sig=.52			

Like ethnic pride, ethnic difference does have an impact, but again only on certain subjects and GPA. As with the effect of cultural maintenance on individual subject scores and GPA, a pattern is revealed by the data in that students who fall within the *medium* range of ethnic differences appear to score the highest (with the exception of mean English scores). In the case of math, for example, students who are medium in ethnic differences have a mean score of 84.8%, compared to 78.1% and 74.7% for the high and low groups respectively (Table 4:12). Though only a small positive relationship exists between ethnic differences and math scores (R^2 = .011), the relationship is significant at the .01 level. For ethnic differences and GPA, about 3% of the difference in GPA scores is accounted for by the difference in ethnic differences, which is significant at the .05 level .

In the case of English, the category of ethnic differences does not appear to have a significant impact. Differences between scores of high, medium, and low ethnic difference groups are only very slight. Those students who are low in their acknowledgement and acceptance of ethnic differences tend to score highest in English (69.1%), but this score is not much greater than those of the high and medium groups (68.9% and 68.8% respectively). With social studies and science, the relationship between dependent and independent variables was not significant, although students in the medium groups of ethnic differences tended to outscore their classmates in high and low groups by a slight margin.

Table 4:12 - Effect of Ethnic Differences on Academic Performance

			Mean Scores			
Ethnic Differences	Math	English	Social Studies	Science	GPA	N
High	78.1%	68.9%	70.7%	79.5%	76.5%	33
Medium	84.8%	68.8%	72.9%	80.0%	77.7%	36
Low	74.7%	69.1%	71.7%	76.7%	71.9%	30
R^2=	.01	.00	.001	.01	.03	
sig=	.01	1.0	.83	.48	.05	

The tendency where respondents in the medium range of ethnic differences score the highest may be further noted through the use of a control variable. When the relationship between math and ethnic differences, for example, is elaborated with the control variable students' length of residence in Canada, both long- and short-term residents in the medium range of ethnic differences outscore their counterparts in the high and low groups. Medium group long- and short-term residents score an average of 81.8% and 86.5% respectively, compared to long- and short-term residents in the high group (70.0% and 85.3% respectively) and long- and short-term residents in the low group (72.2% and 77.7% respectively) (Table 4:13).

Table 4:13 - Effect of Ethnic Differences on Mean Math Scores Controlling for Length of Residence in Canada

	Mean Math Scores Length of Residence in Canada		
Ethnic Differences	Long Term Resident	Resident 10 Years or Less	N
High	70.0%	85.3%	30
Medium	81.8%	86.5%	35
Low	72.2%	77.7%	29

R^2=.01
sig=.01

E. ACADEMIC SOCIALIZATION CATEGORIES

Seven of Mordkowitz and Ginsburg's academic socialization categories were initially analyzed for their effect on student achievement. These included committment to education, emphasis on effortful excellence, parental activity supervision, adaptive classroom attitudes, high priority on education, low verbal interaction, and students' perception of an Asian versus white upbringing ('seeing as others see us'). Of the seven, five categories-- committment to education, parental activity supervision, adaptive classroom attitudes, high priority on education, and students' perception of an Asian versus white upbringing-- were revealed by the data to be of significance to this study and are presented here. Some of these categories, particularly committment to education, parental activity supervision, and high priority on education, figure prominently in other studies. Stevenson and Lee, for example, have looked at the impact of these categories and, like Mordkowitz and Ginsburg, claim that academic socialization is an important factor in school achievement. In their study of Taiwanese and Japanese students, Stevenson and Lee note that Asian parents tend to place higher committment toward their children's educational goals, involve themselves more intensely in the education of their children, and place greater stress on education as their children's number one priority than do North American parents.

1. COMMITTMENT TO EDUCATION

For committment to education , it was hypothesized that students whose parents instill a deep respect for education and who come from stable, closely knit families tend to do better than individuals who lack this background.

Committment to education pertains to what Mordkowitz and Ginsburg describe as a "synergy" between close family feelings and parentally instilled respect for education. A strong family structure, coupled with a direct oversight role by parents in their children's activities and emphasis on educational study, is claimed to play an important role in academic success. Questions were asked about the closeness of a student's relationship with his/her parents, the individual's obligations to family, and degree of parental sacrifice for education.

As evidenced by the data, committment to education has a considerable impact on math and science scores. Those who have high and medium committment to education do considerably better than those who have low committment. In the case of math, high and medium groups have mean scores of 82.7% and 82.2%, respectively, while the low group has a mean score of 74.2% (Table 4:14). There is a small, positive (R^2=.07) and significant relationship between educational committment and math scores. Similarly, the relationship between committment to education and science (R^2=.10) is stronger but still not large and significant at the .01 level. Students who are high and medium in educational committment do better in science than their classmates in the low group (82.3% and 79.2% versus 74.0%, respectively).

With English and social studies, however, the impact of educational committment on performance--though in the same direction as in math and science--is weaker and not significant. In each case, the higher the committment the better the academic performance.

As might be expected, because of pooling effects, educational committment does matter when it comes to students' GPA. The relationship is quite significant at a level of .001, R^2 = .13. Those students who are high and medium in educational committment have higher GPAs (78.9% and 77.0%, respectively) than their fellow classmates who are low in educational committment (70.4%). In this case, 13% of the variance in GPA's is accounted for by educational committment (sig=.0006).

Table 4:14 - Effect of Committment to Education on Academic Performance

	Mean Scores					
Committment to Education	Math	English	Social Studies	Science	GPA	N
High	82.7%	71.9%	74.4%	82.3%	78.9%	36
Medium	82.2%	68.5%	71.7%	79.2%	77.0%	30
Low	74.2%	65.5%	67.1%	74.0%	70.4%	33
R^2=	.07	.04	.05	.10	.13	
sig=	.01	.13	.10	.01	.0006	

The above relationship was also elaborated with two control variables: length of residence in Canada and students' birthplace. In both cases, it appears that demographic factors play a slightly greater role in influencing academic performance than educational committment. This is particularly evident in mathematics, where short-term residents do noticeably better than long-term residents, but vary less within their own category when comparing groups high, medium, and low in educational committment (Table 4:15).

Similarly, when students' birthplace was controlled, greater differences could be seen when comparing the scores of Asian-born students and North American-born students than comparing the scores achieved by high, medium, and low educational committment groups in each birthplace category. For example, Asian-born students who are high in educational committment score slightly better than Asian-born students who are medium in educational committment, but score well above North American-born students who are high in educational committment (Table 4:16).

2. PARENTAL ACTIVITY SUPERVISION

Mordkowitz and Ginsburg believe that one of the major factors in actualizing the achievement potential of children is the strict control of after-school time most traditional Asian parents exert. Therefore, it was hypothesized that greater parental supervision over children's after-school activities would lead to better school performance.

The theme of control of after-school time is elaborated in parents' scheduling of activities, discouragement of unlimited play, parent and/or sibling assistance with schoolwork, and a regulation of both the quantity and quality of television viewing. Students were asked questions that assessed degree of family help with studies, degree of parental supervision over the student's social life, amount of parental supervision over t.v. viewing and homework duties, and the role of parents in encouraging their children to participate in educational-type activities.

With math, science, and GPA, parental activity supervision plays a small (R^2=.03) but statistically significant role in determining the outcome of mean scores. In the case of math, for example, students who come from families where supervision is high or medium do better than those who come from families where supervision is low (80.5% and 82.6% versus 75.0%, respectively) (Table 4:17). Similarly, parental activity supervision matters when it comes to science scores. Students high in parental activity supervision score an average of 81.4%, while those low in supervision score 76.2%.

When one examines the data for GPA, the impact of parental activity supervision is even greater. Students in the high and medium groups score 77.0 % and 77.1%, respectively, while those in the low group score 70.5%. Here, the relationship between parental activity supervision and GPA is stronger than for math, although only 6% of the variance in math scores is accounted for by parental activity supervision.

Although a small positive relationship (R^2 = .02) exists between parental activity supervision and English scores, this relationship is not significant. Note, however, that the scores for the high and medium groups (70.9% and 69.3%, respectively) are slightly higher than the score for the low group (65.8%). Similarly, in the case of social studies, students high in parental activity supervision outscore students in the low group, but the relationship between variables is not significant.

As with committment to education, length of residence in Canada and students' birthplace were employed as control variables. Again, these appear to have a slightly greater influence on academic performance than parental activity supervision. This is especially evident in the case of mathematics, where short-term residents score well above long-term residents, regardless of whether they are high, medium, or low in parental activity supervision (Table 4:18). Similarly, a student's birthplace plays a similar role in influencing academic marks, as indicated most clearly by mathematics and English scores (Table 4:19).

Parental activity supervision does, however, have an impact in the case of long-term residents and North American-born students. Among long-term residents, students who are *medium* in their level of parental activity supervision score highest in all subjects and GPA (Table 4:18). One may speculate that acculturated Chinese students, like many of their white classmates, come from families where rules and parental control are more lax than in the traditional Asian family, hence their lower marks. The data also appears to suggest, however, that an environment of overly strict Confucian-based authoritarianism may *not* be conducive to academic achievement. Long-term residents who experience high parental activity supervision do less well than the medium groups, and, in the case of English, *short-term resident* students who are medium in parental activity supervision score highest (Table 4:18). The impact of parental activity supervision on mean scores is also evident where student birthplace is concerned. With the exception of GPA, North-American born students who are *medium* in parental activity supervision score higher, as do Asian-born students in math and GPA (Table 4:19).

Table 4:15 - Effect of Committment to Education on Academic Performance Controlling for Length of Residence in Canada

	Mean Mathematics Scores		
	Length of Residence in Canada		
Committment to Education	Long Term Resident	Resident 10 Years or Less	N
High	72.5%	89.6%	37
Medium	78.1%	85.3%	29
Low	73.4%	75.2%	34
R^2=.07			
sig=.01			

	Mean English Scores		
	Length of Residence in Canada		
Committment to Education	Long Term Resident	Resident 10 Years or Less	N
High	73.4%	70.9%	36
Medium	74.5%	64.1%	28
Low	68.2%	61.9%	36
R^2=.04			
sig=.13			

	Mean Social Studies Scores		
	Length of Residence in Canada		
Committment to Education	Long Term Resident	Resident 10 Years or Less	N
High	78.0%	72.2%	37
Medium	76.5%	67.9%	29
Low	70.4%	62.8%	33
R^2=.05			
sig=.10			

	Mean Science Scores		
	Length of Residence in Canada		
Committment to Education	Long Term Resident	Resident 10 Years or Less	N
High	79.6%	84.1%	33
Medium	80.8%	78.0%	34
Low	75.0%	72.5%	34
R^2=.10			
sig=.01			

	Mean GPA Scores		
	Length of Residence in Canada		
Committment to Education	Long Term Resident	Resident 10 Years or Less	N
High	77.1%	80.0%	36
Medium	75.0%	78.3%	29
Low	69.7%	71.3%	35
R^2=.13			
sig=.001			

Table 4:16 - Effect of Committment to Education on Academic Performance Controlling for Students' Birthplace

	Mean Mathematics Scores		
	Students' Birthplace		
Committment to Education	N. America	Asia	N
High	72.3%	87.4%	37
Medium	78.1%	85.3%	33
Low	74.4%	73.9%	31

R^2=.07
sig=.02

	Mean English Scores		
	Students' Birthplace		
Committment to Education	N. America	Asia	N
High	73.0%	71.4%	38
Medium	74.5%	64.1%	29
Low	67.8%	62.9%	34

R^2=.04
sig=.14

	Mean Social Studies Scores		
	Students' Birthplace		
Committment to Education	N. America	Asia	N
High	76.8%	72.7%	36
Medium	76.5%	67.9%	30
Low	70.1%	63.7%	34

R^2=.05
sig=.12

	Mean Science Scores		
	Students' Birthplace		
Committment to Education	N. America	Asia	N
High	79.0%	84.2%	35
Medium	80.8%	78.0%	28
Low	75.0%	72.7%	36

R^2=.10
sig=.01

	Mean GPA Scores		
	Students' Birthplace		
Committment to Education	N. America	Asia	N
High	76.7%	79.9%	38
Medium	75.0%	78.3%	28
Low	69.5%	71.4%	35

R^2=.13
sig=.001

Table 4:17 - Effect of Parental Activity Supervision on Academic Performance

	Mean Scores					
Parental Activity Supervision	Math	English	Social Studies	Science	GPA	N
High	80.5%	70.9%	74.2%	80.6%	77.0%	31
Medium	82.6%	69.3%	71.4%	79.3%	77.1%	42
Low	75.0%	65.8%	68.6%	76.0%	70.5%	28
R^2=	.03	.02	.03	.03	.06	
sig=	.05	.33	.33	.30	.01	

Table 4:18 - Effect of Parental Activity Supervision on Academic Performance Controlling for Length of Residence in Canada

Mean Mathematics Scores
Length of Residence in Canada

Parental Activity Supervision	Long Term Resident	Resident 10 Years or Less	N
High	72.3%	86.6%	39
Medium	79.6%	84.5%	23
Low	70.3%	80.1%	37

R^2=.03
sig=.05

Mean English Scores
Length of Residence in Canada

Parental Activity Supervision	Long Term Resident	Resident 10 Years or Less	N
High	71.5%	70.4%	38
Medium	77.0%	76.3%	29
Low	66.6%	64.8%	32

R^2=.02
sig=.33

Mean Social Studies Scores
Length of Residence in Canada

Parental Activity Supervision	Long Term Resident	Resident 10 Years or Less	N
High	76.6%	72.6%	40
Medium	78.6%	66.1%	27
Low	67.9%	69.3%	33

R^2=.03
sig=.33

Mean Science Scores
Length of Residence in Canada

Parental Activity Supervision	Long Term Resident	Resident 10 Years or Less	N
High	78.7%	81.9%	42
Medium	81.4%	77.8%	28
Low	73.4%	79.2%	30

R^2=.03
sig=.30

	Mean GPA Scores		
	Length of Residence in Canada		
Parental Activity Supervision	Long Term Resident	Resident 10 Years or Less	N
High	76.3%	77.5%	38
Medium	76.9%	77.3%	29
Low	67.5%	74.0%	32

R^2=.06
sig=.01

Table 4:19 - Effect of Parental Activity Supervision on Academic Performance Controlling for Students' Birthplace

	Mean Mathematics Scores		
	Students' Birthplace		
Parental Activity Supervision	N. America	Asia	N
High	73.5%	84.3%	41
Medium	79.0%	84.4%	29
Low	71.4%	78.4%	30

R^2=.03
sig=.06

	Mean English Scores		
	Students' Birthplace		
Parental Activity Supervision	N. America	Asia	N
High	72.0%	70.2%	43
Medium	76.3%	64.8%	25
Low	65.9%	65.6%	31

R^2=.02
sig=.34

	Mean Social Studies Scores		
	Students' Birthplace		
Parental Activity Supervision	N. America	Asia	N
High	76.2%	73.1%	38
Medium	78.0%	66.2%	32
Low	67.4%	69.8%	30

R^2=.03
sig=.33

	Mean Science Scores		
	Students' Birthplace		
Parental Activity Supervision	N. America	Asia	N
High	79.4%	81.3%	41
Medium	80.6%	78.4%	29
Low	73.3%	78.8%	31

R^2=.03
sig=.30

	Mean GPA Scores Students' Birthplace N. America	 Asia	 N
Parental Activity Supervision			
High	77.0%	77.1%	40
Medium	75.9%	77.7%	32
Low	67.1%	74.0%	28
R^2=.06			
sig=.01			

3. ADAPTIVE CLASSROOM ATTITUDES

Researchers such as Mordkowitz and Ginsburg have found that Asian children are often facilitated by several loosely related attitudes (acquired through family socialization) that help them define their relation to the external society. This type of attitude socialization, they suggest, promotes better school adjustment and therefore better academic performance. Hence, it was hypothesized that students who possess strong family-socialized beliefs about school (and society in general) are academically more successful than classmates who lack such a background .

Adaptive classroom attitudes acquired through family socialization include an unquestioning respect for teachers (and other authority figures), student avoidance of conflicts (e.g., fighting) that reduce concentration on academic work (reflecting a greater emphasis on self-control of aggression, and acknowledging the importance of order in society through proper conduct. To assess adaptive classroom attitudes, respondents were questioned about the importance of obeying parents, obeying school rules, working diligently at school tasks, respecting teachers, and drawing upon lessons learned at home and applying them at school.

From the data, it is evident that the category of adaptive classroom attitudes has a clear impact on a student's overall average, that is, GPA, but not on grades in any of the individual subjects (Table 4:20). The relationship between adaptive classroom attitudes and GPA, though small at $R^2 = .04$, is significant at a level of .02 . Note, however, that the highest GPA scorers are not those individuals in the 'high group' (76.3%) of adaptive classroom attitudes as expected, but those in the 'medium' group (78.0%). Also, since student birthplace and length of residence did not appear to act in any way different when implemented as control variables, they are not presented in the analysis.

Table 4:20 - Effect of Adaptive Classroom Attitudes on Academic Performance

	Mean Scores					
Adaptive Classroom Attitudes	Math	English	Social Studies	Science	GPA	N
High	80.4%	70.7%	74.2%	80.8%	76.3%	32
Medium	82.9%	67.8%	71.4%	79.1%	78.0%	35
Low	76.0%	67.7%	69.0%	76.8%	71.7%	35
R^2=	.02	.01	.03	.02	.04	
sig=	.09	.58	.33	.35	.02	

4. HIGH PRIORITY ON EDUCATION

It was hypothesized that students whose parents place high priority on education have a different perception of how to manage time in pursuit of educational goals, and that this difference would be manifested by a greater motivation to study leading to higher academic success.

Mordkowitz and Ginsburg note that many Asian parents make more study time available to their children by not demanding contributions from them to either daily household chores or economic livelihood unless doing so was absolutely necessary. By doing so, the parents not only increase available study time but also increase the sense of obligation to the parent and provide an incentive to study. Respondents were asked to consider such statements as "Part-time work after school would be acceptable to my parents," "Going out and having fun is more important than studying," "I spend less time studying than other activities," "Studying is one of my most important responsibilities," etc.

Only two subjects--English and science-- appear to be significantly affected by high priority on education (Table 4:21). In the case of English, students in the high and medium priority groups score much better than the low priority group (72.1% and 70.8% versus 62.9%, respectively). There is a positive relationship between variables of $R^2 = .08$ that is significant at a level of .01.

The data for science shows a similar outcome: high and medium priority groups score well ahead of the low priority group with marks of 82.4% and

79.8%, respectively, compared to the low group's 74.2%. The relationship between high priority on education and science is positive at $R^2 = .09$ and significant at a level of .01.

Although neither math, social studies, or GPA is seen to be affected significantly by high priority on education, students in both high and medium priority groups consistently score higher than students in the low priority group, thus lending support to the hypothesis that high priority on education positively favors academic achievement. In the case of GPA, for example, low priority group students score 72.9% on average, compared to high and medium group students who score 77.6% and 75.8%, respectively.

Table 4:21 - Effect of Priority on Education on Academic Performance

	Mean Scores					
Priority on Education	Math	English	Social Studies	Science	GPA	N
High	81.3%	72.1%	74.8%	82.4%	77.6%	27
Medium	81.0%	70.8%	72.2%	79.8%	75.8%	38
Low	76.5%	62.9%	67.3%	74.2%	72.9%	35
$R^2=$	.02	.08	.05	.09	.04	
sig=	.24	.01	.11	.01	.16	

Although the data may reveal that high priority on education positively favors academic performance, its influence is, again, not quite as large as the demographic variables of length of residence in Canada and students' birthplace (Table 4:22). Note the impact of length of residence in Canada on academic scores, particularly with regard to mathematics, English, and social studies. As indicated in Table 4:23, a similar effect can be seen with students' birthplace as the control variable. With both length of residence and student birthplace, high priority on education has a positive impact on some subjects: long-term residents who are *medium* in educational priority score highest in math and English (Table 4:22). Similarly, North American-born students who are medium in educational priority score highest in both math and English (Table 4:23).

5. SEEING AS OTHERS SEE US

In some of the studies of successful Asian-American students, including the study by Mordkowitz and Ginsburg, students were asked to speculate about how they might have been different had they grown up in a white majority family. In many respects they see majority upbringing as the inverse of their own. That is, they believe they would have had parents who gave them more freedom, but possibly cared less about their welfare, and that they would have had a less positive image of academic achievement and less willingness to work hard, but more developed social skills. Hence, it was hypothesized that the more Chinese students see their upbringing as the inverse of their white friends/classmates, the greater the influence of Chinese culture on their attitudes and work habits, and consequently the better their academic performance.

To assess this category, respondents were asked to agree or disagree to such statements as "I respect my parents less compared to my white friends and/or classmates and their parents"; "My white classmates go out less than I do"; "I believe I would have more freedom if I were raised by a white family"; "I believe I would receive the same support for school if my parents were white"; etc.

The data reveal that 'seeing as others see us' has the greatest impact on GPA scores, and that this relationship is significant at a level of .02 (Table 4:24). Those students in the high group who perceive their upbringing as the inverse of their white classmates score an average of 77.4%, while those who see themselves as nearer to the mainstream score an average of 72.7%.

It should be noted that a positive impact of 'seeing as others see us' on scores other than GPA can be seen in all subjects (math, science, English, and social studies); however, this impact is slight and not significant. For example, in the case of science, students in the high group score a mean of 80.7%, while students in the low group score 76.6%. In every subject, Chinese students who see themselves as different from whites tend to outscore their counterparts in the low group.

Table 4:22 - Effect of Priority on Education on Academic Perfomance Controlling for Length of Residence in Canada

	Mean Mathematics Scores		
	Length of Residence in Canada		
Priority on Education	Long Term Resident	Resident 10 Years or Less	N
High	74.5%	87.7%	42
Medium	77.1%	84.7%	28
Low	70.3%	80.2%	31
R^2=.02			
sig=.24			

	Mean English Scores		
	Length of Residence in Canada		
Priority on Education	Long Term Resident	Resident 10 Years or Less	N
High	73.0%	71.2%	39
Medium	75.1%	66.6%	27
Low	65.1%	61.6%	33
R^2=.08			
sig=.01			

	Mean Social Studies Scores		
	Length of Residence in Canada		
Priority on Education	Long Term Resident	Resident 10 Years or Less	N
High	77.8%	72.4%	35
Medium	76.1%	68.2%	33
Low	68.8%	66.4%	29
R^2=.05			
sig=.11			

	Mean Science Scores		
	Length of Residence in Canada		
Priority on Education	Long Term Resident	Resident 10 Years or Less	N
High	81.3%	83.5%	37
Medium	78.6%	80.8%	34
Low	73.8%	74.4%	28
R^2=.09			
sig=.01			

	Mean GPA Scores		
	Length of Residence in Canada		
Priority on Education	Long Term Resident	Resident 10 Years or Less	N
High	77.5%	77.7%	33
Medium	75.3%	76.4%	38
Low	66.9%	76.0%	29
R^2=.04			
sig=.16			

Table 4:23 - Effect of Priority on Education on Academic Performance Controlling for Students' Birthplace

	Mean Mathematics Scores		
	Students' Birthplace		
Priority on Education	N. America	Asia	N
High	74.5%	87.7%	36
Medium	77.8%	83.2%	38
Low	71.6%	78.5%	25
R^2=.02			
sig=.24			

	Mean English Scores		
	Students' Birthplace		
Priority on Education	N. America	Asia	N
High	73.0%	71.2%	33
Medium	75.1%	67.8%	37
Low	64.2%	61.7%	31
R^2=.08			
sig=.01			

	Mean Social Studies Scores		
	Students' Birthplace		
Priority on Education	N. America	Asia	N
High	77.8%	72.4%	36
Medium	75.1%	69.9%	34
Low	68.2%	65.8%	29
R^2=.06			
sig=.07			

	Mean Science Scores		
	Students' Birthplace		
Priority on Education	N. America	Asia	N
High	81.3%	83.5%	40
Medium	78.1%	81.1%	33
Low	73.7%	74.1%	27
R^2=.09			
sig=.01			

	Mean GPA Scores		
	Students' Birthplace		
Priority on Education	N. America	Asia	N
High	77.5%	77.7%	38
Medium	74.6%	76.7%	39
Low	66.3%	75.7%	24
R^2=.04			
sig=.14			

Table 4:24 - Effect of Seeing As Others See Us on Academic Performance

Seeing As Others See Us (Difference)	Math	English	Mean Scores Social Studies	Science	GPA	N
High	81.4%	70.4%	71.9%	80.7%	77.4%	54
Low	77.7%	66.5%	70.5%	76.6%	72.7%	47
sig=	.16	.14	.62	.08	.02	

F. SUCCESS ORIENTATION

For success orientation, it was hypothesized that students who express high goals and who come from success-oriented backgrounds would experience greater academic achievement than students who do not.

Several variables were included to assess students' success orientation. Respondents were asked questions about the importance of having sound personal goals, having a positive attitude towards school, and establishing a strong work ethic.

As evidenced by the data, success orientation did not have a significant impact on either individual subjects or GPA. In the case of math, for example, students who are highly success-oriented score an average of 80.5%, while medium and low success-oriented students score an average of 80.7% and 77.3%, respectively (Table 4:25).

In the case of GPA, success orientation is even less significant, with students in the high, medium, and low groups all having similar mean scores of 74.5%, 75.9%, and 75.4%, respectively. With respect to English, social studies, and science, success orientation failed to have an impact on mean scores, as students who belonged to either high, medium, or low success-oriented groups had very similar scores.

Table 4:25 - Effect of Success Orientation on Academic Performance

Success Orientation	Math	English	Mean Scores Social Studies	Science	GPA	N
High	80.5%	68.3%	72.3%	79.4%	74.5%	41
Medium	80.7%	71.8%	73.6%	79.8%	75.9%	26
Low	77.3%	65.5%	67.3%	76.5%	75.4%	32
R^2=	.01	.01	.02	.01	.002	
sig=	.51	.19	.18	.46	.84	

SUMMARY: THE IMPACT OF CATEGORIES ON ACADEMIC PERFORMANCE

Among the categories which were expected to have a high impact on academic performance but in fact did not have any significant influence on subject mean scores or GPA were cultural maintenance, emphasis on effortful excellence, low verbal interaction, and success orientation. Demographic variables such as length of residence in Canada and students' birthplace were also seen to have a slightly greater impact on academic achievement than a number of the culturally based academic socialization variables. This was particularly evident in technical subjects like mathematics and science, where Asian-born students and short-term residents tended to outscore their more Western acculturated classmates. The GPA scores of these students were also generally higher in most of the controlled relationships. It should be noted, however, that although the demographic variables were generally more influential than some of the academic socialization variables, this does indicate *closeness* to one's ethnic culture. In addition, length of residence and student birthplace are often bound with academic socialization; most Asian-born Chinese students place high priority on education and are apt to see themselves more differently from whites than North-American born Chinese students. As evidenced, students who are closer to their ethnic culture--whether demographically, through their socialization or both--generally do better in school than those who are not.

Contrary to what some of the researchers hypothesize, emphasis on effortful excellence and low verbal interaction did not emerge as major factors in explaining the overall academic performance of highly successful Chinese students and, therefore, were not presented in the foregoing analysis. Although students' marks revealed a general direction which might indicate some influence, the effect was not significant. Like Mordkowitz and Ginsburg (1987), Stevenson and Lee (1990) examined the mathematics achievement of Asian students and concluded that an 'emphasis on effort' was the primary factor in determining the high performance of these students. Stevenson and Lee claim that North Americans tend to attribute academic success to one's natural ability rather than effort, hence the lower mathematics scores of American children.

For emphasis on effortful excellence, it was hypothesized that students whose parents hold uniformly high expectations--and who see high academic performance as the result of effort rather than ability--would do better than students whose parents do not emphasize this kind of excellence. For low verbal interaction, researchers such as Mordkowitz and Ginsburg believe that a de-emphasis on verbal expression is a characteristic of many Asian families, present in family interaction from an early age. They argue that such socialization is quite common among highly successful Asian students. It might be argued that such socialization, in being a 'characteristic' of Asian families, would therefore be *less* characteristic of North American Chinese families. Hence, it could be hypothesized that children from North American families, who lack this type of socialization, would do worse than their Asian raised classmates. Sue and Kirk (1972) note that a 'submergence of individuality', a tendency to be 'less socially extroverted', and a tendency to 'experience greater emotional distress' are characteristics of Asian students, and that such characteristics lend themselves to greater conformity and superior academic achievement.

This study did not find any solid support for the above hypotheses. In fact, in the questionnaires, many of the successful Chinese students remarked that their families were quite interactive and open to conversation. Most of these students cited no displeasure in participating in class activities where speaking was required, and many of them participated in various extracurricular activities such as sports and debating. In addition, information that the students gave about their parents did not reveal any unusual emphasis on effort that might lead to superior academic performance. This was substantiated by very similar mean scores among students who were high, medium, and low in their degree of emphasis on effortful excellence and in their degree of verbal interaction.

In addition, it was seen that in many categories, most notably cultural maintenance, ethnic differences, relationships with other Chinese, and adaptive classroom attitudes, students who belonged to neither high nor low groups, but to the *medium* groups, tended to score the highest in various subjects and GPA; as stated previously, this may indicate the existence of a 'mid-level of cultural adjustment' for individuals who are neither recent immigrants nor fully

Westernized, and that such adjustment is conducive to academic performance. Recent immigrants often contend with problems of adjustment that affect school performance negatively--this was evidenced by the data which show that such students tended to do less well in the humanities subjects, where having good English skills is an advantage in getting better grades; on the other hand, very Westernized Chinese individuals generally tended to do less well, particularly in science and math.

It may also be suggested that students who are neither recent immigrants nor fully Westernized are, as a group, similar to the Nisei Japanese Americans in Caudill and De Vos's study. Although these students may be behaviorally assimilated (i.e., they have fully adopted the English language, dress, mannerisms of white Canadians), it is very possible they have still retained many of the *values and attitudes* of their ethnic culture. Intrinsically, they have not changed much and therefore, despite overt behavioral assimilation, have not undergone radical cultural or *covert* assimilation. In contrast, thoroughly Westernized Chinese students, because of the weakened influence of the ethnic culture on their upbringing, may be both behaviorally *and* --to a degree--culturally assimilated, hence their full acculturation and generally lower academic performance.

In addition, the hypothesis of investigators (e.g., those who have studied Chicano acculturation in the United States) who claim that school performance improves with increased functional use of the English language, is supported here only by the finding that westernized Chinese students normally do better than less acculturated classmates in English and social studies. The tendency for these same students to do more poorly in the technical subjects parallels the findings of researchers Stevenson and Lee (1990), whose cross national study revealed that Asian students consistently score higher in mathematics tests than American students. Although in Asian countries science and math are often stressed, Stevenson and Lee argue that this is not the only reason why Asian students generally do well in these subjects; educational priority and committment also play an important role in determining academic success.

It should also be noted that although some academic socialization categories failed to show a *significant* impact on academic achievement, this did not disaffirm the possible effect of an 'Asian socialization factor' at work; in fact, in almost every academic socialization category, students in the high groups (e.g., high in low verbal interaction) tended to do better than students in the medium groups who, in turn, outscored students in the low groups. Even when control variables such as length of residence were introduced into the relationship, groups that scored high on academic socialization tended to do better than medium and low groups. For example, it was clearly evident that short-term residents did much better than long-term residents in mathematics; however, this did not negate the fact that short-term residents who scored high in priority on education also did better than short-term residents who were medium and low in this category. Long-term residents who scored high and medium on the academic socialization variables also tended to do better than long-term residents who scored low. Such findings support previous studies which claim that the general high achievement of Asian students is primarily the result of early academic socialization.

Finally, the relative significance of academic socialization is further highlighted when one assesses the *combined* effects of the variables on mean scores. To do this, an analysis of variance was conducted using those variables that were identified as significant in the preceding analysis. What is revealed in the analysis is that, in the cases of math, science, and GPA, committment to education appears to have the most significant impact on mean scores, even more than length of residence in Canada (Tables 4.26 - 4.28). With math, ethnic differences also has a large impact (Table 4.26) as does Chinese skills. These three variables--along with length of residence in Canada--explain 27% of the variance in math scores. In the case of science scores and GPA, committment to education is the only variable wtih a statistically significant impact on performance. The explained variance was 15% in the case of science and 21% in the case of GPA, both somewhat lower than for mathematics.

In the case of English, priority to education and length of residence in Canada both appear to have a significant effect on performance (Table 4.29); however, in the case of social studies, ethnic pride has a larger impact on mean scores than length of residence in Canada (Table 4.30).

Table 4:26 - Analysis of Variance

MATH Mathematics
by EDCOMMIT
ETHNDIF
CHNSKLL
STUCAN Student's Length of Residence in Canada

HIERARCHICAL sums of squares
Covariates entered FIRST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	4110.933	6	685.155	5.349	.000
EDCOMMIT	1331.795	2	665.898	5.198	.008
ETHNDIF	1145.792	2	572.896	4.472	.015
CHNSKLL	1332.140	1	1332.140	10.400	.002
STUCAN	301.205	1	301.205	2.351	.130
2-Way Interactions	2017.92	13	155.161	1.211	.289
EDCOMMIT ETHNDIF	375.359	4	93.840	.733	.573
EDCOMMIT CHNSKLL	5.932	2	2.966	.023	.977
EDCOMMIT STUCAN	232.382	2	116.191	.907	.408
ETHNDIF CHNSKLL	31.769	2	15.884	.124	.884
ETHNDIF STUCAN	247.940	2	123.970	.968	.385
CHNSKLL STUCAN	113.242	1	113.242	.884	.350
Explained	6128.025	19	322.528	2.518	.003
Residual	9222.932	72	128.096		
Total	15350.957	91	168.692		
Multiple R^2					.268
Multiple R					.517

102 cases were processed.
10 cases were missing.

Table 4:27 - Analysis of Variance

SCI Science
by EDCOMMIT
PRIORED
ETHNPRID
STUCAN Student's Length of Residence in Canada

HIERARCHICAL sums of squares
Covariates entered FIRST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	1533.448	6	255.575	2.269	.047
EDCOMMIT	1003.367	2	501.683	4.454	.015
PRIORED	384.131	2	192.065	1.705	.190
ETHNPRID	129.511	1	129.511	1.150	.287
STUCAN	16.440	1	16.440	.146	.704
2-Way Interactions	1347.380	13	103.645	.920	.537
EDCOMMIT PRIORED	166.330	4	41.583	.369	.830
EDCOMMIT ETHNPRID	114.727	2	57.364	.509	.603
EDCOMMIT STUCAN	297.760	2	148.880	1.322	.273
PRIORED ETHNPRID	304.977	2	152.489	1.354	.265
PRIORED STUCAN	176.538	2	88.269	.784	.461
ETHNPRID STUCAN	100.828	1	100.828	.895	.347
Explained	2880.828	19	151.623	1.346	.186
Residual	7546.091	67	112.628		
Total	10426.920	86	121.243		
Multiple R^2					.147
Multiple R					.383

102 cases were processed.
15 cases (14.7%) were missing.

Table 4:28 - Analysis of Variance

	GPA	Grade Point Average
by	EDCOMMIT	
	SEEOTHER	
	ETHNDIF	
	STUCAN	Student's Length of Residence in Canada

HIERARCHICAL sums of squares
Covariates entered FIRST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	1954.678	6	325.780	3.906	.002
EDCOMMIT	1330.248	2	665.124	7.975	.001
SEEOTHER	248.080	1	248.080	2.975	.089
ETHNDIF	195.206	2	97.603	1.170	.316
STUCAN	181.144	1	181.144	2.172	.145
2-Way Interactions	932.982	13	71.768	.861	.596
EDCOMMIT SEEOTHER	10.626	2	5.313	.064	.938
EDCOMMIT ETHNDIF	280.778	4	70.195	.842	.503
EDCOMMIT STUCAN	53.902	2	26.951	.323	.725
SEEOTHER ETHNDIF	225.984	2	112.992	1.355	.264
SEEOTHER STUCAN	53.659	1	53.659	.643	.425
ETHNDIF STUCAN	205.450	2	102.725	1.232	.298
Explained	2887.660	19	151.982	1.822	.035
Residual	6338.298	76	83.399		
Total	9225.958	95	97.115		
Multiple R^2					.212
Multiple R					.460

102 cases were processed.

6 cases (5.9%) were missing.

Table 4:29 - Analysis of Variance

ENGL English
by PRIORED
STUCAN Student's Length of Residence in Canada

HIERARCHICAL sums of squares
Covariates entered FIRST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	2070.838	3	690.279	4.683	.004
PRIORED	1500.096	2	750.048	5.088	.008
STUCAN	570.742	1	570.742	3.872	.052
2-Way Interactions	199.853	2	99.927	.678	.510
PRIORED STUCAN	199.853	2	99.927	.678	.510
Explained	2270.692	5	454.138	3.081	.013
Residual	12972.128	88	147.411		
Total	15242.819	93	163.901		
Multiple R^2					.136
Multiple R					.369

102 cases were processed.
8 cases (7.8 %) were missing.

Table 4:30 - Analysis of Variance

SOCSTUD Social Studies
by ETHNPRID
STUCAN Student's Length of Residence in Canada

HIERARCHICAL sums of squares
Covariates entered FIRST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	1622.388	2	811.194	4.869	.010
ETHNPRID	954.845	1	954.845	5.731	.019
STUCAN	667.543	1	667.543	4.007	.048
2-Way Interactions	32.288	1	32.288	.194	.661
ETHNPRID STUCAN	32.288	1	32.288	.194	.661
Explained	1654.676	3	551.559	3.311	.024
Residual	14328.224	86	166.607		
Total	15982.900	89	179.583		
Multiple R^2					.102
Multiple R					.319

102 cases were processed.
12 cases (11.8%) were missing.

As evidenced by the above analyses, English, social studies, science, and GPA scores appear to be much less affected by a combination of the academic socialization variables than math. Not only do these socialization variables have a larger impact on math scores, but some of the academic socialization variables when combined are *more* influential in shaping performance than factors such as student birthplace. Again, these findings appear to support the theory of academic socialization and its influential role on school performance.

V. CONCLUSIONS

A. Conclusions

This study examined the relationship between acculturation and the academic socialization and school performance of Chinese Canadians in Edmonton. Previous studies support the hypothesis that exemplary Asian-American achievement is the result of family structure and value systems. The evidence for the influence of Asian culture on educational development, though well documented, has been largely informal and based on cross-national comparisons of Asian and North American children. In examining differences and similarities in the school performance of Chinese Canadians as a group, this study has drawn fairly similar conclusions with the addition of a few interesting findings.

The role of motivation, attributions of the source of success, and other factors that may be influenced by parental child-rearing practices and values were reviewed and testable hypotheses regarding the socialization of exemplary school achievement were formulated. What was discovered was that the results of this study generally appear to support the general hypothesis that exemplary academic achievement among Chinese Canadians is influenced by a culture that emphasizes education and supports achievement values. Although it may be postulated that the success of many Chinese students is due to traditions of century-old reverence for education, the study revealed specifically how high achieving Chinese students tend to bring to school from their homes attitudes and behaviors which are highly congruent with school expectations. These behaviors become reinforced at home and at school and consequently motivate the individual to maintain the student role.

What was evidenced by the data is that all of the high achieving students tended to share a 'closeness to their Chinese roots'; that is, they were more likely to be born in Asia, have better Chinese language skills, were more proud of their Chinese heritage, and considered themselves more ethnically different. Students who were more acculturated or Westernized tended to score lower on the academic socialization categories, and this in turn was reflected by their poorer academic performance. Although not all of the academic socialization categories showed a significant impact on mean scores, it was generally revealed that students who scored in the high or medium range of the categories tended to achieve higher academic marks than students who were less 'academically socialized'.

The results of this study reinforce the argument that 'superiority' in cognitive aptitude cannot explain the generally high levels of achievement among Asian students, that one must instead look at cultural differences in socialization which appear to have a real influence on academic performance. Had the study compared *several generations* of Chinese-Canadian students, it is very likely that cultural differences in socialization would diminish as Chinese Canadians move from being first or second to third and fourth generation individuals. Coinciding with this decrease would be a lowering of academic achievement as the Chinese group in Canada becomes more acculturated. Researchers like Vigil and Long, Kitano, and Caudill and De Vos have compared different generations of Japanese and Chicano students in the United States and have found that acculturation correlates inversely with school performance. These researchers propose the same argument: that students who are closer to their ethnic culture generally do better than their fully assimilated classmates. In the case of Vigil and Long's study, recent Chicano immigrants offer closer, more traditional patterns of parental supervision which contribute to their children's greater success in school. By retaining their native cultural style, the less acculturated, Mexican-oriented students were also found to be more psychologically 'stable' because of their greater self-esteem and ethnic pride. Specific factors in child-rearing that are conducive to exemplary academic performance are therefore not unique to Asian families. Vigil and Long's study reveals how similarities in parental expectations and concerns, family environments and relationships may be evident in the backgrounds of high achieving students of other ethnic groups as well. Additionally, in a previous study, Yao (1985) discovered many similarities in the home environments of Asian and Anglo high achievers and proposed that cultural factors are responsible in positively affecting the achievement patterns of these students. The results of Yao's study revealed, for example, that Asian and Anglo parents of high achievers tend to share similar practices and value system emphasizing school and school related activities, parental interest and involvement in a child's education, and the ability to provide a stable home environment.

Had the study compared Chinese-Canadian students with *white* students, the data would probably have drawn fairly similar conclusions to Yao's study of high achievers. Although differences in academic socialization and school performance might be greater if the Chinese group was contrasted with whites, it can be speculated that the highest achieving students would comprise Chinese and white students who share values that are highly congruent with school expectations, that is, values concerning educational committment and priority, respect for authority, etc. The high achieving white student, in being more academically socialized, would be comparable to the less acculturated Chinese student who holds more traditional values. On the other hand, the fully acculturated Chinese individual who abandons traditional Chinese values of filial piety and respect for authority, educational committment, etc., would be closer to the white student who lacks a similar value system. Their poorer academic performance would therefore indicate an attenuation or lack of strong family and work-oriented values.

B. Limitations and Recommendations

1. Limitations

As only one school was studied and the response rate for a questionnaire was expected to be low, efforts were made to obtain as many respondents of Chinese origin as possible. One high school in south Edmonton, possessing a sizable and socioeconomically homogenous population of Chinese students, was chosen for this particular reason. Because all the respondents had volunteered for the study, those who did not volunteer are not represented here. In addition, those who chose to volunteer may have been especially conscious of the topic of 'Chinese values and academic achievement', which they may not have thought much about before. This may have influenced the manner in which responses were given. For example, in knowing that the study concerned academic achievement, a student may have answered "strongly agree" to the statement, "I have a good relationship with my parents" because he/she knows that such relationships are normally conducive to academic success. Part of the problem stems from the use of a group-administered questionnaire as the method of observation for the study. In spite of many advantages, survey research presents its weakness on validity. According to Babbie, "In comparison with field research, for example, the artificiality of the survey format puts a strain on validity" (Babbie, 1986). Answers to the questionnaire may not necessarily reflect the respondent's true self; the responses may have been made to fulfill the researcher's expectations.

Because of the volunteer nature of the study, the study may have attracted a greater number of 'academically conscientious' students to participate, thus skewing achievement scores toward the higher ranges on the academic assessment part of the questionnaire. Moreover, the possible preponderance of academically conscientious students in the survey could have positively affected answers given on all of the academic socialization categories.

2. Recommendations

The students who responded to this study appeared to express a deep interest in the welfare of the Chinese community in Edmonton. Because the study involved both immigrants and Canadian-born Chinese, issues of ethnic identity and cultural interest and maintenance were highly regarded by respondents. At present, the Chinese community in Edmonton is in a state of flux; although a segment of the city's Chinese population comprises second, third, and even fourth generation Canadian status, the number of new immigrants to this country has grown considerably within the past two decades and now rivals the number of Canadian-born Chinese. Because of significant contrasts between cultures, the assimilation process is often a difficult one for Asian immigrants. Immigrant Asian parents and their children usually have perceptions and expectations of teachers that differ from those of North American-born parents and children. As noted in Chapter II., teachers are highly respected in Asian countries and have supreme authority over students' cognitive learning and moral conduct. States Yao:

> Immigrant Asian children are more inclined to seek the teacher's approval and make decisions based on the teacher's choice; they are more dependent than other children on their teachers for help with schoolwork and guidance in classroom behavior...They are also more accustomed to structured and passive learning conditions, rather than to the North American educational approach which requires critical and divergent thinking. This style of learning often conflicts with the teacher's style of teaching or the learning style of the other students in the classroom. Such encounters not only hinder learning capacities but may lead to added psychological problems (Yao, 1985).

By deepening their understanding of East-West cultural differences in learning styles then, educators and counselors in this country will be better prepared to assist Asian immigrant students with their problems and provide more effective guidance.

In addition, more studies of the Chinese group in Canada are needed to clarify the state of the community and the direction in which it is headed. The impact of assimilation needs to be examined in greater depth, particularly with regard to education, since school success is one of the most important factors in determining the successful adaptation of an immigrant group to this country. As well, such studies could assess the level of alienation or anomie when members of the group give up and stop trying to achieve in school because of the perceived 'uselessness' of education for achieving future success in our culture. Kitano (1962) contends that with increased acculturation, the Japanese in the United States face not only a continuing downtrend in achievement, but will also experience a rise in crime and delinquency as they become more Americanized. The Chinese in Canada may be taking a similar path. The alienation experience of different groups of Chinese youth in Canada can therefore serve as a focal point for additional research on problems of ethnic identity and awareness.

Further comparisons between recent immigrants and Canadian-born Chinese are also needed, as many studies tend to focus on cross national issues of achievement rather than intergenerational issues. The examination of successive generations of Chinese Canadians can extend our knowledge of

Chinese Canadians much like the study of Japanese Americans by Caudill and De Vos (1956). As the Chinese become more acculturated in Canada, the traditional behaviors and values of the group appear to be slowly changing from typically Chinese to Canadian. Although the evidence reveals that with acculturation a lowering of academic achievement may occur, this does not necessarily suggest a breakdown of the ethnic community. One of the positive aspects of increased acculturation has been the potential for wider participation in other sectors of Canadian culture and the opening of opportunities, as well as increased social participation. Such progress was clearly noted in the case of Japanese Americans by Kitano (1962). Due to a lack of similar studies in Canada, additional research on acculturated Chinese Canadians is necessary to assess this condition more closely, and its effect on society as a whole.

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APPENDICES

Appendix A. Cover Letters

Dear Parent or Guardian:

I am a graduate student at the University of Alberta conducting research into the effects of acculturation on young people of Chinese descent. Being a third generation Chinese Canadian, I am very interested in finding out the differences and similarities in values and attitudes of today's Chinese youth toward school and family. My goal is to determine the impact of "Canadianization" on students' values and attitudes, and to find out whether acculturation undermines or strengthens school performance.

Because little information exists regarding how acculturation is affecting Chinese Canadians, I am undertaking this study to find out more about the experiences of Chinese youth in Edmonton. With this data, I will be able to assess the direction in which the Chinese group is headed in Canada, and perhaps provide useful information to members of the Chinese community to help new Canadians. My research will also provide information for school staff who want to develop programs to help students with academic problems arising from culture conflict.

This study involves filling out a questionnaire by the student. Because I am interested in the experiences of Chinese Canadians as a whole, not in individual cases, the information gathered will be analyzed and reported in grouped form. No one but me will see the completed questionnaire. I hope you will agree to allow your child to participate in this study, and allow the school to provide me with your child's grades for analysis. Strict confidentiality and anonymity of each student is assured.

The information your child provides will be extremely helpful in my efforts to examine the present state of the Chinese group in Canadian society. Your consent would be greatly appreciated. If you agree to allow your child to participate, please sign below and have your child return this letter to me by December 13.

I consent to allow my son/daughter participate in this study:

____

Thank you,

Ray Mah

Dear Student:

I am a graduate student at the University of Alberta conducting research into the effects of acculturation on young people of Chinese descent. Being a third generation Chinese Canadian, I am very interested in finding out the differences and similarities in values and attitudes of today's Chinese youth toward school and family. My goal is to determine the impact of "Canadianization" on students' values and attitudes, and to find out whether acculturation undermines or strengthens school performance.

Because little information exists regarding how acculturation is affecting Chinese Canadians, I am undertaking this study to find out more about the experiences of Chinese youth in Edmonton. With this data, I will be able to assess the direction in which the Chinese group is headed in Canada, and perhaps provide useful information to members of the Chinese community to help new Canadians. My research will also provide information for school staff who want to develop programs to help students with academic problems arising from culture conflict.

This study involves filling out a questionnaire. Because I am interested in the experiences of Chinese Canadians as a whole, not in individual cases, the information gathered will be analyzed and reported in grouped form. No one but me will see the completed questionnaire. I hope you will agree to participate and allow me to acquire your grades from school records for analysis. Strict confidentiality and anonymity is assured.

Thank you for your assistance,

Ray Mah

Appendix B. Questionnaire

Questionnaire Survey

PART ONE

A. For the following questions, please fill in the blanks with the required information.

GRANDPARENTS' BIRTHPLACE

Father's Side (List country of birth)

1. Grandfather ____

2. Grandmother ____

Mother's Side (List country of birth)

3. Grandfather ____

4. Grandmother ____

PARENTS' BIRTHPLACE

5. Father (List country of birth) ____________________________________

6. Mother (List country of birth) ____________________________________

STUDENT INFORMATION

7. Your age: ________ Your gender : [ ] Male [ ] Female

8. Grade level (10, 11, or 12): ________

9. Place of birth: ___________________________________

10. For those students not born in Canada or the United States, how long have you lived in Canada?:

____

B. For the following questions, circle only one answer unless otherwise specified.

How often do you:

11. Eat Chinese food at home?

    1. Seldom
    2. A few times a year
    3. Once a month or more
    4. Once a week or more

12. Eat Western food at home?

    1. Seldom
    2. A few times a year
    3. Once a month or more
    4. Once a week or more

13. Go out to Chinese restaurants?

    1. Seldom
    2. A few times a year
    3. Once a month or more
    4. Once a week or more

14. Watch Chinese Language movies (videos, cinema, etc.)?

    1. Seldom
    2. A few times a year
    3. Once a month or more
    4. Once a week or more

15. Watch English Language movies (videos, cinema, etc.)?

    1. Seldom
    2. A few times a year
    3. Once a month or more
    4. Once a week or more

16. Listen to Chinese music (i.e., songs in Chinese and/or by Chinese entertainers)?

1. Seldom
2. A few times a year
3. Once a month or more
4. Once a week or more

17. Listen to Western music (i.e., songs in English by Western entertainers)?

1. Seldom
2. A few times a year
3. Once a month or more
4. Once a week or more

18. Participate in Chinese social functions (e.g., Chinese organized clubs, dances, sports, games)?

1. Seldom
2. A few times a year
3. Once a month or more
4. Once a week or more

19. Do you or your family use any Chinese medicines or cures (e.g., Chinese herbal remedies, Tai-Chi, accupressure, etc.)?

1. Yes, on a number of occasions during the year
2. Yes, once or twice a year
3. No, never

20. Do you or your family recognize and/or celebrate Chinese holidays and festivals such as Chinese New Year's?

1. Yes, on a number of occasions during the year
2. Yes, once or twice a year
3. No, never

21. Do you or your family observe any traditional Chinese customs (e.g., paying respects to older people and your ancestors (prayers for dead ancestors), giving out 'red packets of money' on festive occasions, preparing traditional Chinese

foods (eg., dumplings, pastries), believing in Chinese superstitions, etc.)?

1. Yes
2. No

22. Do you buy and read any Chinese magazines, books, newspapers, etc.?

1. Seldom
2. A few times a year
3. Once a month or more
4. Once a week or more

C. For the following items, check the column that best describes the way you feel:

	Yes	**Not Sure**	**No**
23. I am proud of my Chinese heritage	___	___	___
24. I sometimes wish I could be white instead of being Chinese	___	___	___
25. I am different from my white classmates in my value system	___	___	___
26. Given a choice, I would prefer to go to Chinese social occasions to mainly white gatherings	___	___	___
27. I am different from my white friends/classmates in family structure	___	___	___
28. I would prefer to date / marry someone within my own race	___	___	___
29. I find strength in the fact that I am racially different from the majority of Canadians	___	___	___

continued...	Yes	Not Sure	No
30. I am different from my white classmates/friends in facial features (skin color, shape of eyes, nose etc.)	___	___	___
31. I would feel slightly uncomfortable in public to be around people who speak Chinese out loud	___	___	___
32. When I am around white people, I am conscious of being 'different'	___	___	___

If your response to question # 32 was 'yes', what makes you feel different from white people? ____
____

33. Which of the following best describes how you define your ethnicity? (Circle one):

1. I am a Chinese
2. I am a Canadian-Chinese
3. I am a Chinese-Canadian
4. I am a Canadian
5. Other (specify) ____________

D. Indicate your ability with the following languages by checking the appropriate column:

	None	Little	Some	Excellent
34. Speak English	___	___	___	___
35. Read/Write English	___	___	___	___
36. Speak Chinese (any dialect)	___	___	___	___
37. Read/Write Chinese	___	___	___	___

38. If you can speak Chinese, check the column that indicates how often you speak Chinese with each of the following people. (If you cannot speak Chinese, go on to question 39).

	Everyday	**Once a week or more**	**Less than once a week**	**Never**
1. grandparents	______	______	______	______
2. parents	______	______	______	______
3. sisters/brothers	______	______	______	______
4. friends	______	______	______	______

39. Does your family have close contacts with other Chinese people? (Circle one):

1. Yes
2. No

40. Think of your 3 closest friends. How many of them are of Chinese descent?

1. None
2. One
3. Two
4. Three

41. For each of the following, check the column that indicates how often you meet people of Chinese descent in Edmonton:

	Once a week or more	**Once a month or more**	**Less than once a month**	**Never**
1. relatives	_____	_____	_____	_____

continued...	Once a week or more	Once a month or more	Less than once a month	Never
2. friends	_____	_____	_____	_____
3. social events	_____	_____	_____	_____

PART TWO

A. For each statement, check the column that best describes the way you feel:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I have a close relationship with my parents	_____	_____	_____	_____
2. Going out and having a good time is more important than doing my homework	_____	_____	_____	_____
3. My parents would be happy with the the idea of me working part-time after school for the 'fun of it'	_____	_____	_____	_____
4. Discipline and hard work are important for success	_____	_____	_____	_____
5. It is hard for me to start a conversation with a total stranger	_____	_____	_____	_____
6. To make me study hard and do well, my parents sometimes give me rewards and/or verbal encouragement	_____	_____	_____	_____
7. I feel parental/family pressure to do well in school	_____	_____	_____	_____

continued...

	Strongly Agree	Agree	Disagree	Strongly Disagree
8. I often misbehave in class	____	____	____	____
9. If I need it, my parents and/or other family members would be willing to help me with my schoolwork	____	____	____	____
10. I would rather spend an evening at home than go to a party attended by people I don't know	____	____	____	____
11. Compared to my white friends/classmates, I think I respect and obey my parents less	____	____	____	____
12. As a son or daughter, I feel it is my duty to repay my parents for the opportunities they have given me in life	____	____	____	____
13. My parents encourage me to participate in activities that help 'build character and discipline' (e.g., classical music, computers, martial arts, reading, sports)	____	____	____	____
14. In general, my Asian classmates tend to be worse students than my white classmates (i.e., they are less well behaved and are less studious)	____	____	____	____
15. My parents usually remind me of the amount of t.v. I can watch and my homework responsibilities	____	____	____	____

continued...

	Strongly Agree	Agree	Disagree	Strongly Disagree
16. I sometimes hear my parents tell me things like, “You can do better than that”, “Only ‘A-’?”, “You must try harder”, “How did your your classmates do?”, etc.	____	____	____	____
17. Overall, I consider myself to be a relatively quiet person	____	____	____	____
18. In general, I believe my white friends/ classmates and their families have a closer relationship with each other than my family and me	____	____	____	____
19. Throughout my school career, I have been a good student academically	____	____	____	____
20. I usually spend little time studying and doing my homework compared to other activities	____	____	____	____
21. I enjoy class activities where I am expected to speak out loud	____	____	____	____
22. Children should listen to their parents	____	____	____	____
23. When it comes to my education, my parents would be willing to make sacrifices for me	____	____	____	____

continued...

	Strongly Agree	Agree	Disagree	Strongly Disagree
24. My parents do not have high expectations of me to do well in school and with my career aspirations	_____	_____	_____	_____
25. Generally my family and I are quite talkative at home	_____	_____	_____	_____
26. I believe that one of the reasons why I do well in school is because I come from a family that is stable and close-knit	_____	_____	_____	_____
27. It is not really important for a student to obey school rules and to act properly at school	_____	_____	_____	_____
28. I believe I would be more outgoing and talkative if I were brought up in a white household	_____	_____	_____	_____
29. I have high career goals	_____	_____	_____	_____
30. Compared to myself, my white friends/classmates spend less time going out and doing things outside the family	_____	_____	_____	_____
31. I come from a family that is success-oriented	_____	_____	_____	_____

continued...

	Strongly Agree	Agree	Disagree	Strongly Disagree
32. My parents rarely "keep an eye" on what goes on in my social life (e.g., the kind of friends I make, the amount of time I spend 'having fun' after school, etc.)	_____	_____	_____	_____
33. My parents believe that studying hard and doing well in school is one of my most important responsibilities	_____	_____	_____	_____
34. My parents are generally quiet and reserved people	_____	_____	_____	_____
35. Students should respect their teachers	_____	_____	_____	_____
36. The lessons I have learned at home has helped me deal with school	_____	_____	_____	_____
37. When it comes to homework and studying, I would say that I am less hardworking than my white friends and classmates	_____	_____	_____	_____
38. I want to be near or at the 'top of my class'	_____	_____	_____	_____
39. I believe I would have more freedom if I were raised by a white family	_____	_____	_____	_____

continued...

	Strongly Agree	Agree	Disagree	Strongly Disagree
40. In public, I am usually outgoing and expressive in my emotions	_____	_____	_____	_____
41. If my parents were white, I probably would get the same support and concern for my school work and career goals	_____	_____	_____	_____
42. I generally like school	_____	_____	_____	_____

PART THREE

A. Please fill in the required information.

1. Indicate your average mark for each of the following courses (if possible, provide marks from your last year's report card or provide a close estimate):

MATHEMATICS __________%

ENGLISH __________%

SOCIAL STUDIES __________%

SCIENCES __________%

2. Check the 'mark range' that most accurately describes your academic grade average (that is, average for all courses):

a. 95-100% ______
b. 90-94% ______
c. 85-89% ______
d. 80-84% ______
e. 75-79% ______
f. 70-74% ______
g. 65-69% ______
h. 60-64% ______
i. 55-59% ______
j. 50-54% ______
k. below 50% ______

3. Have you ever received any academic (or other) awards? (Circle one):

1. Yes
2. No

If you answered 'yes' to question # 3, list some of the awards you have received: ____
____
____

That concludes the questionnaire survey. Thank you very much for assisting me with this study.